Undergraduate Catalog

2004-2005

Indiana University of Pennsylvania

Indiana University of Pennsylvania is committed to equal opportunity and affirmative action for its students, employees, and applicants. The university is committed to providing equal educational and employment rights to all persons without regard to race, color, sex, religion, national origin, sexual orientation, age, disability, or veteran's status. Each member of the university community has a right to study and work in an environment free from any form of racial, ethnic, and sexual discrimination. In accordance with federal and state laws, the university will not tolerate racial or ethnic discrimination or discrimination on the basis of disability.

This policy is placed in this document in accordance with state and federal laws including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991 as well as all applicable federal and state executive orders. This policy extends to disabled veterans and veterans of the Vietnam era.

Please direct all general inquiries regarding equal opportunity and affirmative action to
Associate Vice President for Human Resources
1011 South Drive, Sutton Hall
Indiana, PA 15705
Telephone: 724-357-2431; fax: 724-357-2685

TD: Telecommunications Device available in the
Advising and Testing Center, 724-357-4067 (V/TD) (8:00-4:30, M-F)
University Police, 724-357-1272 (TD) (24 hours)

IUP ensures compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act through the provision of program access accommodations. Please direct inquiries regarding accommodations for persons with disabilities to

Student Concerns:
Director, Advising and Testing Center/Disability Support Services
504 Coordinator
Pratt Hall, Room 106
201 Pratt Drive
Indiana, PA 15705
Telephone: 724-357-4067

Employee Concerns:
Assistant to the President for Social Equity/Senior Human Resources Manager
1011 South Drive, Sutton Hall
Indiana, PA 15705
Telephone: 724-357-2431

Specific inquiries regarding Title IX should be directed to
Office of the Vice President for Student Affairs
Sutton Hall, Room 212
1011 South Drive
Indiana, PA 15705
Telephone: 724-357-1242

The university publishes an on-line student handbook, The Source, *which is a companion to this catalog. The handbook contains detailed information on the policies mentioned on this page.* The Source *is accessible to all enrolled students at the website* www.iup.edu/studentconduct/source.

Questions regarding the Sexual Harassment Policy or complaint procedures may be directed to the Assistant to the President for Social Equity/Senior Human Resources Manager, Sutton Hall, IUP. The IUP Sexual Harassment Policy is accessible at the website www.iup.edu/humanresources/policies/sexualharassment.shtm.

This bulletin contains announcements of courses for the academic year 2004-05. IUP reserves the right to repeal, change, or amend the rules, regulations, courses, and programs contained in this bulletin at any time. Tuition and fees are also subject to change.

IUP Civility Statement
As a university of different peoples and perspectives, IUP aspires to promote the growth of all people in their academic, professional, social, and personal lives. Students, faculty, and staff join together to create a community where people exchange ideas, listen to one another with consideration and respect, and are committed to fostering civility through university structures, policies, and procedures. We, as members of the university, strive to achieve the following individual commitments:

- To strengthen the university for academic success, I will act honestly, take responsibility for my behavior and continuous learning, and respect the freedom of others to express their views.
- To foster an environment for personal growth, I will honor and take care of my body, mind, and character. I will be helpful to others and respect their rights. I will discourage intolerance, hatred, and injustice and promote constructive resolution of conflict.
- To contribute to the future, I will strive for the betterment of the community: myself, my university, the nation, and the world.

IUP is the largest member university of Pennsylvania's State System of Higher Education and the only one authorized to grant doctoral degrees. For information about the System and its other member universities, visit www.sshechan.edu.

Indiana University of Pennsylvania
2004-05 Undergraduate Catalog

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On-line version: *www.iup.edu/registrar/catalog*

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Undergraduate Degrees Offered at IUP

Bachelor of Arts

- **Anthropology** (Tracks available: Applied Anthropology, Archaeology, General Anthropology, Honors)
- **Art/History Track**
- **Art/Studio**
- **Biology** (Pre-Medicine concentration and Honors Track available)
- **Chemistry** (Pre-Medicine concentration available)
- **Computer Science**
- **Criminology** (Pre-Law Track available)
- **Economics** (Tracks available: Honors and Pre-Law)
- **Economics/Mathematics** (Honors Track available)by may
- **English** (Tracks available: Honors and Pre-Law)
- **French** (Honors Track available)
- **French for International Trade**
- **Geography** (Tracks available: Economic Geographer, Environmental Geographer, General Geography, GIS and Cartographer)
- **German**
- **German for International Trade**
- **Government and Public Service**
- **History** (Tracks available: Honors and Pre-Law)
- **Interdisciplinary Fine Arts**
- **International Studies/Political Science**
- **Journalism**
- **Music** (Tracks available: General Studies, History and Literature, Theory and Composition)
- **Philosophy** (Tracks available: Honors and Pre-Law)
- **Physics**
- **Political Science** (Pre-Law Track available)
- **Psychology** (Tracks available: Applied Psychology and Honors)
- **Religious Studies** (Honors Track available)
- **Sociology** (Tracks available: Applied Social Research, General Sociology, Human Services, Honors)
- **Spanish** (Honors Track available)
- **Spanish for International Trade**
- **Theater**

Bachelor of Science in Education

- **Art Education**
- **Biology Education** (Honors Track available)
- **Business Education**
- **Chemistry Education**
- **Early Childhood Education/PreK-Grade 6**
- **Earth and Space Science Education**
- **Education of Exceptional Persons**
- **Education of Deaf and Hard-of-Hearing Persons**
- **Elementary Education** (Urban Track available)
- **English Education**
- **Family and Consumer Sciences Education**
- **French Education K-12**
- **General Science Education**
- **Health and Physical Education**
- **Mathematics Education**
- **Music Education**
- **Physics Education**
- **Social Science Education** (Concentrations available: Anthropology, Sociology)
- **Social Studies Education** (Tracks available: Economics, Geography, History)
- **Secondary German Education**
- **Secondary Spanish Education**
- **Speech-Language Pathology and Audiology**
- **Vocational-Technical Education**

Bachelor of Science

- **Accounting**
- **Applied Mathematics**
- **Applied Physics** (Nanomanufacturing Technology Track available)
- **Applied Physics/Electro-Optics Track**
- **Biochemistry**
- **Biology** (Concentration available: Family Medicine; Tracks available: Cell and Molecular Biology, Pre-Medical, Pre-Veterinary, Honors)
- **Business Technology Support**
- **Chemistry** (Pre-Medicine concentration available)
- **Child Development/Family Relations**
- **Clinical Laboratory Science**
- **Communications Media**
- **Computer Science** (Tracks available: Applied Computer Science, Information Assurance, Languages and Systems)
- **Environmental Health Science**
- **Fashion Merchandising**
- **Finance**
- **General Studies**
- **Geology** (Tracks available: Geology, Environmental)
- **Hospitality Management**
- **Human Resources Management**
- **Interior Design**
- **International Business**
- **Management** (Tracks available: General, Entrepreneurship and Small Business, Operations)
- **Management Information Systems**
- **Marketing**
- **Mathematics**
- **Natural Science** (Tracks available: Pre-Chiropractic, Pre-Dentistry, Pre-Engineering, Pre-Optometry, Pre Pharmacy, Pre-Physical Therapy, Pre-Podiatry)
- **Nuclear Medicine Technology**
- **Nursing** (Registered Nurse Track available)
- **Nutrition** (Tracks available: Dietetics, Nutrition)
- **Physical Education and Sport** (Tracks available: Aquatic, Athletic Training, Exercise Science, Sport Administration)
- **Physics**
- **Regional Planning** (Tracks available: Economic Developer, Environmental Planner, GIS and Cartographer, Town Manager)
- **Respiratory Care**
- **Safety Sciences**

Bachelor of Fine Arts

- **Music Performance**
- **Art Studio**

Associate of Arts

- **Business** (Specializations available: Accounting, Computer and Office Information Systems)
- **General Studies**

Associate in Applied Science

- **Electro-Optics**

Associate in Science

- **Electro-Optics**

The University

A University Education

Through undergraduate and graduate programs, IUP serves students from across the nation and around the world by introducing them to and sustaining them in a culture of high aspiration and achievement so they may lead productive and meaningful lives. Singly and through collaboration within the Pennsylvania State System of Higher Education, with other educational institutions, and with business, government, human services, and professional organizations, IUP contributes to the economic and cultural strength of the region, the commonwealth, and the nation through education, scholarship, and service.

As the university continually evolves to higher levels of excellence, IUP will be

- An institution of higher and continuing learning committed to the teacher-scholar model and the learning-centered environment and a university where master's and doctoral education is targeted to the education of competent practitioners, the production of practical knowledge, and the enrichment of undergraduate life.
- A learning-centered environment in which students enjoy traditional and nontraditional classroom experiences, engage in research and service activities with their faculty mentors, become lifelong learners equipped to adapt to the changing needs of their professional lives, and develop leadership skills for effective citizenship.
- An institution guided by its heritage, maintaining an environment of inquiry that combines a thorough examination of cultural traditions and intellectual roots with scientific and technological currency and the best of the liberal arts with superior career preparation.
- A learning community in touch with the main currents of politics, economics, and cultural life throughout the world; a community enriched by the presence of a significant number of international students and by opportunities for study abroad; and a community supported by technology that facilitates active participation in the creation and use of information and knowledge on a global scale.
- A center of lively intellectual discourse and affection for the arts.
- A community that is diverse in composition, with a clear commitment to tolerance, compassion, and service.

History of the University

IUP has witnessed a history rich in accomplishment. Since 1875, when it served only 225 students in a single building, it has experienced continuous growth, becoming Pennsylvania's fifth largest university. The current enrollment is over thirteen thousand, with students from thirty-six states and over fifty-five countries.

The first building, named John Sutton Hall in honor of the first president of the Board of Trustees, was opened for students on May 17, 1875.

In April, 1920, control and ownership of the school passed to the Commonwealth of Pennsylvania. In May, 1927, by authority of the General Assembly, the State Normal School became a college, with the right to grant degrees. The name was then changed to the State Teachers College at Indiana, Pennsylvania. In 1959, the legislature approved a change of name to Indiana State College; in the 1960s there followed a rapid growth in the liberal arts program. In December, 1965, Indiana was redesignated Indiana University of Pennsylvania and given the authority to expand its curriculum and to grant degrees at the master's level. At this time the first doctoral program was initiated.

Current academic offerings include more than a hundred undergraduate majors with a variety of internship and study abroad programs, more than forty master's degree programs, and eight doctoral degrees. Unusual opportunities for research at all levels and the Robert E. Cook Honors College provide special challenges for academic growth. The variety and quality of instruction are characteristic of a big university, yet at IUP, close, one-to-one-relationships develop within the teaching framework, and a strong sense of community prevails.

The following publications have all recognized IUP for its high academic standards and competitive costs: *Arco's Dollarwise Guide to American Colleges*; *Barron's 300: Best Buys in College Education*; *The Best 351 Colleges*, published by *Princeton Review*; *The Best Buys in College Education* by Edward Fiske, education editor of the *New York Times*; *Changing Times*; *How to Get an Ivy League Education at a State University* by Martin Nemko; *Money* magazine's *Money Guide*; *Two Hundred Most Selective Colleges: The Definitive Guide to America's First-Choice Schools*; and *U.S. News and World Report*.

University Governance

Indiana University of Pennsylvania is one of fourteen members of the State System of Higher Education in Pennsylvania. Oversight of the System is vested in the Board of Governors, the members of which are appointed by the governor. Each university has its own Council of Trustees, responsible for financial oversight and insuring compliance of university policies with state law. Responsibility for the day-to-day operations is entrusted to the university president, who is the chief executive officer.

Due to the complexity of the university, the president relies on the University Senate to develop and approve curricula and to advise the president on setting policies that affect and shape the working and learning environment at IUP. The University Senate is composed of faculty, students, and administrators who are both elected and appointed by their peers.

Many of the important policies governing the working and learning environment, such as the policy on sexual harassment, the academic integrity policy, and the policy on nondiscrimination, are given in this catalog or the student handbook *(The Source)* and are also available on the World Wide Web at *www.iup.edu*. To insure a nurturing environment where all faculty, students, and administrators can work together in harmony, it is essential that all members of the university be familiar with these policies, as they set the expectations for civil behavior and academic conduct.

Accreditation

IUP is a state-owned institution for higher education and a member of the Pennsylvania State System of Higher Education. It is an approved and fully accredited member of the following.

- American Association of Health and Physical Education
- American Chemical Society
- American Culinary Federation
- American Psychological Association
- American Speech-Language Hearing Association
- Association for Childhood Education International
- Association to Advance Collegiate Schools of Business
- Commission on Accreditation for Dietetic Education of the American Dietetic Association
- Commission on Collegiate Nursing Education
- Council for Exceptional Children
- Council of Education of the Deaf
- Accreditation Commission for Programs in Hospitality Administration
- Joint Review Committee for Respiratory Therapy Education
- Middle States Association of Colleges and Schools
- National Association of School Psychology
- National Association of Schools of Music
- National Association of Schools of Theater
- National Association of School Psychologists
- National Council for Accreditation of Teacher Education
- National Council of Social Studies
- National Council of Teachers of English
- National Council of Teachers of Mathematics

- Pennsylvania Department of Education
- Related Accreditation Commission of the Accreditation Board for Engineering and Technology

Buildings and Grounds

In 1875, the main campus consisted of 12 acres and one building. With the addition in 1995 of 137 acres of undeveloped land from the former Campbell and County farms, the main campus now comprises 341 acres, on which are located 69 buildings owned by the Commonwealth and seven athletic fields. Two of the buildings, Breezedale and John Sutton Hall, have been entered in the Register of Historic Places.

The Punxsutawney Branch Campus totals 5.98 acres consisting of two sites–four buildings at the Punxsutawney campus and two at the Culinary School. The Armstrong Branch Campus has four buildings and a total of 1.74 acres.

The Student Co-op owns and operates the newly renovated Hadley Student Union Complex that includes a large fitness center, handball/racquetball courts, food court and catering area, computer lounges, expanded meeting rooms, and an expanded bookstore. The Co-op Recreational Park, located a few miles from the campus, consists of 280 acres and several buildings, including a lodge and a ski hut. The wooded hillsides offer opportunities for nature study and outdoor recreational activities such as driving golf balls, softball, picnicking, hiking, cross-country skiing, and exercise trails.

Indiana, the County and the Town

Indiana County was formed by act of the state legislature in 1803 and was fully organized in 1806. George Clymer of Philadelphia, a signer of the Declaration of Independence, owned more than three thousand acres in the area and presented 250 acres to the new county for a county seat. The town of Indiana was officially founded in 1816.

The county's first major industry was the manufacture of salt, which began in 1813 about two miles above the town of Saltsburg. As early as 1797 bituminous coal was dug from exposed outcroppings. Mining soon rivaled agriculture as the backbone of the county's economy. Its influence gradually diminished, though, and today IUP is the county's largest employer. Indiana County now thrives with an economic base combining education, agriculture, energy production, and commerce into an outstanding quality of life for its nearly 90,000 residents.

Indiana has become known as the birthplace of film star Jimmy Stewart and as the Christmas Tree Capital of the World. Visitors and locals alike can relive Indiana County's past by visiting its parks, covered bridges, fairs, and even the largest Amish settlement in Western Pennsylvania. As one of nine counties represented in America's Industrial Heritage Project, Indiana County has a number of historical sites that are part of the project's Path of Progress. The project's archives are housed in the Special Collections section of IUP's Stapleton Library.

Alumni

With a living alumni base that comprises more than ninety-seven thousand individuals, the university has come to rely on the support of its alumni in a variety of areas. These include career networking, student recruitment, and government relations, as well as fund-raising and service on the Council of Trustees, Alumni Association Board of Directors, Foundation for IUP Board of Directors, and a number of advisory committees.

Graduates automatically become members of the Alumni Association. They are encouraged to continue their connections with IUP through periodicals like *IUP Magazine* and the university's websites.

Resources

Computing Services

All students have access to an extensive set of web-based services, including class registration, schedule planning, and records management. Students are also provided with an e-mail account and a network account, which afford personal disk space for e-mail, projects, and web pages. Technical support is available via the Student Computing Help Desk (*www.iup.edu/ats/sts*).

Academic computing support is provided by technical staff assigned to each college. The college staffs provide computational support for undergraduate and graduate students and for faculty and student research.

Connectivity for student computers in the residence halls is provided through the Office of Housing and Residence Life. The administrative needs of the university are served by the Technology Services Center.

The university's computing infrastructure consists of Windows-based clients and servers and Unix-based servers. Access to the network is provided from every campus building, including the residence halls, utilizing a fiberoptic backbone. Wireless network access is also provided from various locations across campus. Discounted dial-up access is available to students living off campus via an arrangement with a local Internet service provider. IUP is connected to the Internet and Internet 2 via SSHEnet.

Student access to computing is provided, for the most part, through the public computing laboratories. The primary public labs are strategically placed around campus to maximize their availability and impact. Several departments maintain computing facilities that are of a focused nature and which are intended to support specific programs. These include several specialized networks to address particular needs.

Through implementation of its strategic computing plan, which is part of the university long-range planning process, the university is committed to providing the level of computing and information technology necessary for a modern institution of higher education. Guidance in this area is provided by both the Academic Computing Policy Advisory Committee and the Administrative Computing Oversight Committee.

Libraries

Patrick J. Stapleton Jr., Library, the central library for IUP, was completed and dedicated in 1981. It adjoins Rhodes R. Stabley Library, which results in a combined structure of 156,000 square feet. The Cogswell Music Library and the branch campus libraries in Kittanning and Punxsutawney are the other components of the IUP Library system. Fifteen library faculty members, 17 support staff members, and over 150 students are employed in the Libraries division of the university.

The book collection contains 841,881 volumes, there are 2,626 periodical subscriptions, 1.8 million items of microforms, over 128,000 bound periodicals and over 33,387 volumes of governmental publications (IUP is designated Select Depository for federal and state publications.) The libraries' media holdings in all formats are extensive. Resources are supplemented through membership in OCLC for interlibrary loan, the Health Sciences Consortium (North Carolina), and the Laurel Highlands Consortium. The IUP Libraries are active members of the State System's Keystone Library Network, and through the KLN, the university has a shared on-line catalog and receives many electronic databases. The Libraries are also charter members of the Pennsylvania Academic Library Consortium Initiative and receive direct loans from the state's major university and college libraries.

The central library is open 92 hours a week during regular terms. The Cogswell Music Library, located on the top floor of Cogswell Hall, contains approximately 10,000 books, 15,000 scores, 10,000 recordings, and 2,000 CDs. Holdings of monumental editions are substantial. Sound recordings circulate only to faculty members, but listening stations are available for use by all patrons.

The Armstrong County Campus Library has more than 24,000 volumes, and the Punxsutawney Library contains more than 15,000 books and 86 periodical subscriptions and recordings of music, poetry, and drama.

IUP Centers and Institutes

The School of Graduate Studies and Research provides coordinating and support functions for campus-based centers and institutes through the Office of the Assistant Dean for Research. Centers and institutes serve a variety of functions. Each center or institute is unique in its focus and is created to meet a specifically identified need. Centers and institutes provide an opportunity for faculty members to utilize their expertise through consultation, technical assistance, and research-related activities. Centers and institutes provide excellent opportunities for students to learn, to demonstrate their knowledge and skills, and to become involved in meaningful projects in the community. Centers and institutes strengthen the research and public service missions of the university and, therefore, enhance the quality of education.

A current listing of centers and institutes at IUP follows.

- American Language Institute
- Applied Media and Simulation Games Center
- Applied Research Lab
- Archaeological Services
- Center for Applied Psychology
- Center for E-Commerce and Technology Support
- Center for Economic Education
- Center for Educational and Program Evaluation
- Center for Family Business
- Center for Film Studies
- Center for Health Promotion and Cardiac Disease Prevention
- Center for Middle Eastern Studies
- Center for Research in Criminology
- Center for Research in Written Communication and Translation
- Center for Rural Gifted Education
- Center for Statistics Education in Pennsylvania at IUP
- Center for Teaching Excellence
- Center for Turning and Furniture Design
- Center for the Study of Religion in Pennsylvania
- Center for Video Technology
- Center for Vocational Personnel Preparation
- Child Study Center
- Community Nutrition Services
- Criminal Justice Training Center
- Government Contracting Assistance Program
- Highway Safety Center
- Instructional Design Center
- Intercollegiate Athletic Institute for Sports Camps
- Literacy Center
- Management Services Group
- Mid-Atlantic Addiction Training Institute
- National Emergency and Disaster Information Center
- National Environmental Education and Training Center
- National Institute for Correctional Education
- Pennsylvania Center for the Study of Labor Relations
- Pennsylvania/OSHA Consultation Program
- Small Business Development Center
- Small Business Incubator
- Small Business Institute
- Software Development Center
- Spatial Sciences Research Center
- Speech and Hearing Clinic
- Teacher Education Center for Science, Mathematics, and Technology
- Translation Services
- Workforce and Economic Development Program

University Organization

The university's administration comprises four divisions: Academic Affairs, Administration and Finance, Institutional Advancement, and Student Affairs. Information about Academic Affairs and Student Affairs appears in this catalog's sections called, respectively, Academic Affairs Division Areas and Student Programs and Services. Information about the other two divisions follows.

Administration and Finance Division

The Division of Administration and Finance provides internal and external constituents of the university with the highest quality services in the most supportive and cost-effective manner. In contributing toward the fulfillment of IUP's mission of teaching, research, and public service, the division is responsible for the development, stewardship, enhancement, integrity, and stability of the university's fiscal, human, and physical resources.

Major responsibilities of the division are organized and operated from the five distinct departments of Facilities Management, Fiscal Affairs, Human Resources, University Police/Public Safety, and Printing Center/Bulk Mail Services.

In September of 1993, the division developed, directed, coordinated, and produced IUP's Long-Range Campus Development Plan. The plan, approved and published in February of 1996, permits versatile and flexible guidance for which the physical plant and facilities can be maintained and expanded in support of IUP's academic goals and aspirations for its future. The Long-Range Campus Development Plan continues to guide the university as it prepares effective and orderly financial plans for implementing the proposed changes in physical facilities.

Institutional Advancement Division

The advancement arm of the university, the Institutional Advancement Division brings together several functional areas. The communications, governmental relations, alumni affairs, and development areas stimulate positive regard for the university and acquire new resources. The departments feature the excellence and achievement of faculty, students, staff, and alumni and engage people in the life of the university. Staff members and volunteers raise private resources that can influence the quality of the academic environment and of student and alumni life.

The Foundation for IUP is the nonprofit charitable vehicle steered by a distinguished Board of Directors through which the charitable dollars raised by volunteers and staff members are passed to the university to improve the educational and learning environment.

The Branch Campuses

Patricia D. Scott, Dean of the Armstrong Campus
Valarie J. Mancuso, Dean of the Punxsutawney Campus
Joel L. Anderson, Assistant Dean of the Punxsutawney Campus

IUP operates two branch campuses, one in Punxsutawney, twenty-eight miles north of the Indiana campus, and one in Kittanning, twenty-eight miles west of the Indiana campus. The first branch campus was established in 1962 in Punxsutawney. The following year, the Armstrong campus in Kittanning was opened. The Punxsutawney campus accommodates 300 students, and the Armstrong campus accommodates 300-350 students.

Control of the branch campuses is directly vested with the IUP administration and Council of Trustees. Both branch campuses carry full accreditation as integral parts of the undergraduate programs of IUP. This means that courses offered at the branch campuses are of the same quality as those offered at the Indiana campus.

Programs of Study

The branch campuses of IUP offer basic Liberal Studies courses for most majors in the various undergraduate colleges of the university. Students may schedule a full program for the freshman year and some sophomore-level courses. No student accepted at either of the branch campuses is eligible to attend the Indiana campus until he/she has completed two semesters and has attained at least a 2.0 GPA and earned at least 21 undergraduate credits.

Faculty advisors and administrators at the branch campuses are available to advise students on their instructional programs and the proper time for continuing at the Indiana campus.

Admission

Any prospective student who wishes to attend either of the branch campuses instead of the Indiana campus may apply for admission by requesting an application from the Admissions Office or from the dean of either branch campus.

Fees

Branch campus students pay the same basic fees as Indiana campus students.

Rules and Regulations Concerning Student Behavior

Students at the branch campuses are subject to the same rules and regulations as students on the Indiana campus.

Armstrong Campus

The Armstrong Campus is a nonresidential facility with the primary mission of meeting the workforce-related education needs of Armstrong County and surrounding areas in manufacturing technologies, computer-based training, and health-related disciplines. It is the workforce engine for the county and surrounding communities, providing citizens of Armstrong County with access to higher educational opportunities that foster economic, professional, and workforce development. Both credit and noncredit programs are offered at the Armstrong Campus, with special emphasis on associate degrees, graduate degrees, certificates, and liberal studies courses for the first-year experience for commuter students.

Special degrees, such as the A.S. in Electro-Optics and the A.A.S. in Electro-Optics, are offered only at the Armstrong Campus. Graduate degree programs can be completed entirely at the Armstrong Campus. Undergraduate prospective students who wish to attend the Armstrong Campus may apply for admission by requesting an application from the Admissions Office, while prospective graduate students who wish to attend the Armstrong Campus may apply for admission by requesting an application from the School of Graduate Studies and Research.

In addition, requests for applications may be made to the Office of the Dean of the campus. The address follows:

Armstrong Campus
IUP
704 North McKean Street
Kittanning, PA 16201
724-543-1078
800-889-0872
E-Mail: *arm-campus@iup.edu*
Website: *www.iup.edu/armstrong*

Punxsutawney Campus

The Punxsutawney Campus offers a first-year experience where students have the opportunity to begin their university studies in a small, personalized setting. The students are provided with a range of first-year, Liberal Studies classes that are designed to meet the needs of the entering student regardless of academic major. The smaller environment allows students to interact with faculty, staff, and other students in an environment that fosters individual growth and achievement. Students from across the Commonwealth of Pennsylvania as well as other states attend the Punxsutawney Campus, sharing in a diverse living-learning experience. After successful completion of two semesters, earning 21 undergraduate semesters hours with at least a 2.0 GPA, students are eligible to enroll for the completion of their degree on the Indiana Campus.

The Punxsutawney Campus has privately owned residence halls for students living beyond commuting distance. Students are free to choose their own housing from all available sources, which include the residence halls and private homes or apartments within the community. A list of rooms and apartments can be obtained by contacting the Punxsutawney campus.

The Punxsutawney Campus has its own dining facility in the residence hall. Meals are served seven days a week when the university is in session. Residence hall students, as well as students living within the community, are encouraged to participate in the dining hall plans. The same food service contractor as on the Indiana Campus operates the dining service.

To receive an application, or to request additional information on the Punxsutawney Campus, please contact:

Punxsutawney Campus
IUP
1010 Winslow Street
Punxsutawney, PA 15767
814-938-6711
Website: *www.iup.edu/punxsutawney*

Admissions and Registration

Undergraduate Admissions Policy

Graduates of an accredited four-year high school or holders of a GED equivalency diploma are qualified to apply for admission to IUP. Students who have completed the junior year of high school may file an application any time after August 1.

Requests for applications and catalogs should be addressed to
Office of Admissions
Indiana University of Pennsylvania
Sutton Hall, Suite 117
1011 South Drive
Indiana, PA 15705
1-800-442-6830 or 724-357-2230

An on-line application for admission is available at the website *www.iup.edu/admissions*.

The Admissions Committee, giving equal opportunity to all students, will take the following criteria into consideration when reviewing each application: grades and courses taken, class rank, SAT or ACT scores, high school counselor recommendations, extracurricular activities, and other pertinent information that would be helpful to the Admissions Committee in making decisions. SAT or ACT scores are not required for transfer applicants, veterans, or applicants who have graduated from high school more than two years before applying. However, transcripts from high school and colleges previously attended are required of all applicants.

Although the university does not require a specific number of high school credits in particular subject areas, applicants are strongly urged to take the usual college preparatory program in high school. Applicants should also take any available high school courses in the field of their intended major. Certain majors at IUP require completion of a foreign language at the intermediate level in order to earn a bachelor's degree. The Admissions Committee does not require an applicant to take a foreign language in high school for admission to these majors; however, it is in the student's best interest to do so.

Applications are considered by the Admissions Committee on a rolling basis. Under a rolling admissions policy, applications are reviewed as they become complete. Decisions can range from automatic acceptance, to request for **additional** information, to other alternatives, with a May 1 deadline for tuition deposits.

Academically qualified applicants to the departments of Art, Music, and Theater will be admitted to the university by the Admissions Committee. However, admission to the requested major will be subject to the acceptance by the Department of Art after a portfolio review and by the departments of Music and Theater after an audition. Students will receive information from the Art, Music, and Theater departments concerning auditions and portfolio reviews once they have been accepted to IUP.

Freshman Applications

All persons expecting to apply for freshman admission to IUP should plan to take the SAT or ACT test during their junior and/or early part of their senior year. The Admissions Committee recommends that students take the tests more than once. The committee considers the highest scores from all tests taken.

Arrangements to take the SAT or ACT tests can be made through the high school principal or counselor, or by writing to the College Entrance Examination Board, Box 592, Princeton, NJ 08540 or American College Testing, P.O. Box 168, Iowa City, IA, 52243 for an information pamphlet and a test registration form.

In order for the test scores to be received by IUP, the applicant should designate IUP on the test registration form (SAT code: 2652, ACT code: 3704) as one of the universities to receive the scores, or the applicant can request that his or her school counselor forward test scores to the Admissions Office.

The applicant should give the completed application form and the nonrefundable $30 application fee payable to IUP to his/her high school counselor or principal. The counselor or principal should mail the application and complete packet of admissions materials to the IUP Office of Admissions, Sutton Hall, Suite 117, 1011 South Drive, Indiana, PA 15705.

Processing the Application

1. The Admissions Committee reviews, with care and understanding, each of the several thousand applications that are submitted each year.
2. Decisions on applications are made on a rolling basis.
3. Applicants who are admitted to IUP may be invited to attend a program on campus to receive general information and discuss their academic and career plans with the college dean, faculty representative of their respective major, or other advisors.
4. A $75 nonrefundable tuition deposit is due from all incoming students. This advance deposit payment will be credited toward the applicant's tuition.

Transfer Admissions

A student who has been attending another institution of higher education and wishes to transfer to IUP must submit an application with the $30 application fee, official transcripts of all postsecondary educational work, and an official high school transcript.

All admissions decisions are made on a rolling basis by the Admissions Committee. Under a rolling admissions policy, applications are reviewed as they become complete. Decisions can range from automatic acceptance, to request for additional information, to other alternatives.

Transfer applications are reviewed on the basis of academic college coursework attempted or completed. This coursework should be nondevelopmental and nontechnical in nature and be taken from an institution which is accredited by one of the six regional accrediting agencies. Transfers are required to have at least a cumulative 2.0 GPA on a 4.0 scale (C average) from all schools previously attended and have met the minimum requirements established by the academic department to which the student is applying. Teacher education programs require increased standards for admission [successful Praxis I (PPST) scores]. Contact the Office of Admissions for specifics. In addition, the admissions decision considers other evidence of students' performance and ability to be a successful college student.

The evaluation of credits from other institutions of higher education is the responsibility of the Office of Admissions and the academic college dean who has jurisdiction over the student's desired major. Normally, courses considered for transfer are only those taken from institutions which are accredited by the six regional accrediting agencies. Each course is evaluated separately. The evaluation includes a review of the description, credits, and grade of each course along with the applicability of the course to the student's major at IUP. However, only credits transfer, not grade-point average. It has been the policy of the university that only courses with a grade of C or higher will be accepted, except for two-year associate degree graduates of state-supported community colleges in Pennsylvania. No matter how many credits are transferable, the student must satisfy all of the degree requirements falling into the categories of (1) university requirements, (2) college requirements, and (3) department requirements.

University Requirements: Since all students are obliged to fulfill a basic program in Liberal Studies consisting of a minimum of 48 credits and there is a reasonable degree of flexibility in the Liberal Studies requirements, the transfer evaluator and the college deans will look to this area first for

applicable credits for transfer. Most introductory courses are generally equivalent.

Residency Requirements for Awarding of Degrees

The university requires that at least 45 credits, generally including the last 30 credits in a student's curriculum, must be earned by enrollment in courses at IUP; 15 of these credits must be in the student's major. It should also be noted that for community college graduates a maximum of 60 credits are transferable to this institution for the purpose of fulfilling a specific program of study. Excess credits, if any, may be transferred but cannot be used for fulfilling the minimum requirements for the degree.

To remain in good academic standing, transfer students must meet the same GPA requirements as those specified for all other undergraduate students. See section in this catalog entitled "Criteria Governing Continuance at IUP."

The university accepts credits associated with "D" grades only when they are part of a completed associate degree earned at a publicly owned community college in Pennsylvania. These "D" grades will be treated in the same manner as those earned at IUP. This articulation policy was adopted by the Board of State College and University Directors in 1973.

Part-Time Study (Nondegree)

Part-time undergraduate study is available through the School of Continuing Education to any high school graduate or holder of a GED Equivalency Diploma. No SAT scores are required. Note: A TOEFL Score is required as part of the application for an individual whose native language is other than English. Those who are not U.S. citizens must submit a notarized copy of their current visa and I-94 card or alien resident card.

Applications are available from the Part-time Studies Program and must be submitted with documentation directly to the School of Continuing Education by August 15 for the fall semester and December 15 for the spring semester. A $30 application fee is required. Applications submitted after established dates are not guaranteed consideration.

Transfer students may also apply to the School of Continuing Education for part-time study and must submit official transcripts for all previous college work attempted. An overall 2.0 GPA is required.

A student in the Part-time Studies Program is limited to a semester enrollment of no more than 11 credits and must apply for degree candidacy for formal admission to a degree program before 30 IUP credits have been earned. Applications for degree candidacy must be filed by the midterm point of the fall or spring semester preceding candidacy. Specific requirements for GPA and IUP credit vary by degree program. The minimum credit criteria to apply for consideration for degree candidacy follows:

High School Diploma or GED	15 IUP credits	2.0 GPA
Veteran (DD-214 required)	9 IUP credits	2.0 GPA
Transfer (with 12 or more credits)	9 IUP credits	2.0 GPA
Transfer (with 11 or less credits)	15 IUP credits	2.0 GPA

Note: A student who has applied and has been admitted by the Office of Admissions to a branch campus is not eligible to apply to the School of Continuing Education.

Program for Visiting High School Students

IUP permits the exceptional high school student to preview university life and earn regular college credit on a limited nondegree basis. The student must have completed the sophomore year with a minimum of a "B" average and have the written support of the high school principal or guidance counselor. The parameters of the student's enrollment are defined in consultation with the appropriate high school official and are limited to a maximum of 9 credits per semester. For further information, contact the School of Continuing Education.

Postbaccalaureate Studies (Undergraduate)

The Postbaccalaureate Studies Program provides access to undergraduate courses to individuals who have an earned baccalaureate degree. Students may be seeking a second bachelor's degree, an additional teacher certification, or personal enrichment. Students may enroll on a full- or part-time basis based on personal preference and availability of coursework.

Applications are available from the School of Continuing Education. A completed application and official transcripts of all previous undergraduate coursework must be submitted for review by August 15 for fall semester and December 15 for spring semester. Applications not submitted by established dates are not guaranteed consideration. A $30 application fee is required. The fee is waived for graduates of IUP.

Second Baccalaureate Degree

A student with an earned baccalaureate degree who wishes to complete the requirements for a second or subsequent bachelor's degree must make application and submit official transcripts indicating degree(s) awarded. The student must complete a minimum of thirty additional IUP credits beyond those earned in his/her initial bachelor's degree and meet the requirements for graduation established by the academic department and college in which the new degree is to be earned. It is not possible to receive two or more baccalaureate degrees simultaneously. However, a student may complete one or more secondary majors while earning the primary degree.

Teacher Certification

A college graduate with an earned nonteaching baccalaureate degree who wishes to complete the requirements for Instructional Level I Certification must apply as a second bachelor's degree student. A minimum 3.0 cumulative GPA and successful Praxis I (PPST) scores are required for consideration for admission. Applicants must also meet the requirements of Step 1 of the 3-Step Process for Teacher Education which can be found in the College of Education and Educational Technology section of this catalog or at the website *www.iup.edu/education*.

A Pennsylvania-certified teacher who wishes to add a new area of certification may apply to the School of Continuing Education for admission as a postbaccalaureate student.

Immunization Requirements

Students are required to complete a Student Health Form documenting immunization status. See Health Services information in section "Student Programs and Services."

Readmission Policy for Students Who Withdraw from the University Voluntarily

Graduate students wishing to return to the university must contact the Graduate School at 724-357-2222 for specific instructions.

All undergraduate students who have withdrawn from the university, or were not enrolled during the previous regular semester, must complete an Application for Readmission, available by one of the following options:

- Office of the Registrar, Clark Hall Lobby
- By calling 724-357-2377. During evening or weekend hours, you may call this same number and leave your name and address and a form will be mailed to you
- From the Registrar's Office website under Forms Available for Download
- By logging on to URSA and selecting the Apply for Readmission to IUP option under the Student Services and Financial Aid section

The readmission deadline for the spring semester is December 1 and for the fall semester is July 20.

Requests for readmission for academically dismissed students or first-semester and transfer students who withdraw from the university voluntarily during their first semester of full-time enrollment will be forwarded to

the Office of the Dean of the college in which the student was enrolled at the time of dismissal or of total university withdrawal for a decision on the student's readmission.

All outstanding financial obligations to the university must be met before the Application for Readmission will be processed. Due to enrollment restrictions, requests for readmission to Nursing or the College of Fine Arts will be forwarded for approval by a representative from that department or college.

Readmitted students who have not been enrolled for two years or more may petition their college dean for application of the Cancelled Semester Policy, which provides for cancellation from the cumulative record of the effects of one semester below a GPA of 2.0. Students who have been academically dismissed and separated from the university for five consecutive calendar years may petition their college dean to return under the Fresh Start Policy. Students must pay fees and attend classes before a designated semester will be cancelled or the fresh start policy will take effect. See the Academic Policies section of this catalog for more information on these policies.

Once your application for readmission has been approved, you will be sent instructions on how and when to register.

As a student readmitted to IUP, you are encouraged to complete the Free Application for Federal Student Aid (FAFSA) to determine your financial aid eligibility. Your financial aid eligibility will be based on your financial need, as determined by the FAFSA, and on your prior academic record.

If you have previously attended a postsecondary school or schools other than IUP, a Financial Aid Transcript must be completed by this previous school and sent to the IUP Financial Aid Office.

The Summer Sessions

The summer school program at IUP is designed to meet the needs of many students. Courses, workshops, and seminars are offered in the liberal arts, teacher education, and other fields of study.

Continuing university students, including newly admitted freshmen, who wish to accelerate their program of studies will find both Liberal Studies and special courses in all fields of study. Students from other colleges and universities may take courses at IUP; however, they are advised to first ensure that their home institution will transfer such credits earned at IUP.

Teachers-in-service will find courses in the summer program to serve a variety of needs. They may enroll to qualify for permanent certification, satisfy Act 48 requirements, take refresher courses in their field of specialization, or take courses for the purpose of extending their certification to a new field.

The summer sessions schedule can be viewed at the website *www.iup.edu/summer.* Contact the Office of the Registrar, Clark Hall (toll-free number: 888-800-3190), for more information.

Attendance at summer sessions undergraduate courses is open to all students but does not constitute admission or readmission for continuing registration in the fall and/or spring semesters. IUP students with less than a 2.0 cumulative GPA must receive approval from their dean's office before attending summer courses. Non-IUP students who desire admission must obtain an application through the Office of Admissions or the School of Continuing Education, as appropriate. Students who desire readmission for the fall semester must apply to the Registrar's Office by the preceding July 20 and by December 1 for the spring semester.

English Language Programs for International Students and Visitors

The American Language Institute (ALI) offers several noncredit, intensive English programs for international students and visitors from beginning through advanced levels each semester.

The English for Academic Purposes Program (EAP) is for applicants seeking to prepare themselves for study at any U.S. college or university. Enrollment in fall and spring semester is for fourteen weeks (20 hours per week). Midsemester admission is possible with the approval of the director. In summer semester, programs are offered for ten weeks. Students are placed at beginner, intermediate, or advanced levels by proficiency tests at the start of each program. An institutional TOEFL is administered at the conclusion of each semester.

The ALI also offers two less intensive programs: English for Specific Purposes (ESP) for graduate students entering specialized fields and English for Visitors (EV) for visiting professionals who seek improvement in English while experiencing life in the U.S. Special part-time credit programs can be arranged.

Students can also apply for provisional admission to an IUP undergraduate program through the ALI. Contact the director at 724-357-6944 or e-mail *djt@iup.edu.*

Cocurricular social and cultural programs are offered to all students. For further information, visit our website at *www.iup.edu/ali.*

Institutional Fees*

*The university reserves the right to change its fees without notice. For the most current fee schedule, see *www.iup.edu/bursar.*

The tuition and fees set forth in this section were those in effect in May, 2004. The fee schedule is subject to change; these figures are to be considered simply as an estimate. A current fee schedule may be obtained by writing to the IUP Admissions Office, by phoning 724-357-2230, or by visiting our website at *www.iup.edu/bursar.*

Tuition

The tuition for full-time in-state students is $2,299 per semester. An additional $192 per credit will be charged for undergraduate credits scheduled in excess of eighteen. The tuition for part-time in-state undergraduate students is $192 per credit. A part-time undergraduate student is one taking 11 or fewer credits. Tuition covers the keeping of student records, use of the library, student welfare, and laboratory facilities. See the sections on Admissions and Registration and on Academic Policies for further information concerning part-time students.

Out-of-state full-time students pay tuition of $5,748 per semester. An additional $479 per credit will be charged for undergraduate credits in excess of eighteen. The tuition for part-time out-of-state students is $479 per credit. The definition of an in-state student is based on domicile. An in-state student is one who has been domiciled in Pennsylvania for at least one year preceding attendance at any institution of higher education in the state of Pennsylvania. A minor is presumed to have the domicile of his/her parents or legal guardian. Students who have any questions concerning their domicile should read the official text of the rules, as published in Volume 22, Pennsylvania Code, Section 507.1 through 507.11.

Audit Fee

Full instructional fees will be assessed for each course audited, with the exception that persons on Social Security or equivalent retirement benefits will be given remission of basic fees for such classes where space is available.

Bad Check Charge

Students making checks payable to "Indiana University of Pennsylvania" which are not acceptable to the bank for any reason will be charged $10 for each bad check in the amount of $.01 to $49.99 and $20 for bad checks written for $50 or more.

Clinical Laboratory Science Administrative Fee

A fee of up to $75 will be charged to each student enrolled at IUP but attending classes at designated clinical facilities. Fees are $20 (1-3 credits), $40 (4-6 credits), or $75 (7 or more credits). Tuition, room, and board charged for these students should be paid by the student directly to the hospital institution.

Dining Plan Fee

The semester fees for dining plans, effective June, 2004 are:

Plan A/F	19 meals per week + $100 in Flex money	$963
Plan B	14 meals per week	$814
Plan B/F	14 meals per week + $150 in Flex money	$964
Plan C/F	Any 165 meals a semester + $150 in Flex money	$960
Plan D/F	Any 10 meals a week + $200 in Flex money	$979
Plan K/F	Any 125 meals a semester + $200 in Flex money	$975
Plan E/F	Any 75 meals a semester + $150 in Flex money (Off-campus students only)	$621

Meals provided through these plans are for the use of the contract holder only. Flex money can be carried from fall to spring semester; however, any portion not used by the end of the spring semester **will be forfeited.** Flex may be used for guests.

Financial Delinquency Policy

Registration is not complete until a student pays the fee for registration, and the university reserves for itself the right to bar a nonpaying student from classes. When it has been determined during the course of a semester that a student's account has become delinquent from accrued charges, the Registrar's Office will be notified of this delinquency and advised to refrain from allowing the student to make further registration transactions, reporting the student's grades, and issuing any transcripts for that student's work until the delinquent account has been satisfied. Faculty members will submit a grade for the financially delinquent student; however, requests from students will not be honored, and official reports will be released by the Registrar's Office only after the student has cleared his or her account or has established a payment plan satisfactory to the Office of the Bursar.

Health Services Fee

The mandatory student health fee is assessed each semester based upon enrollment status at the university.

- *Health Service Fee A:* $85.00 (mandatory for full-time undergraduate students). Includes access to clinical care with service fees charged as required. All charges for visits or medications are charged to the student's IUP account. Prescriptions can also be written at the request of the student. The health center does not fill prescriptions ordered by outside medical providers.
- *Health Service Fee B:* $12.00 (mandatory for all part-time undergraduate students and full-time graduate students). The fee provides access to the self-care cold center (nominal fee for medications), an annual flu vaccination (while supplies last), and for an additional fee, students who pay Fee B may have access to some clinical services. Students who have paid Fee B are also eligible for programs and services offered by Health AWAREness in the Center for Student Life.

Students enrolled in Health Fee B have the option of upgrading their service by paying Fee A, or they may pay a per-visit fee. Spouses of IUP students may enroll in A or B or pay a per-visit fee. The student health fee is waived on a semester-by-semester basis only for students driving more than twenty-five miles (one-way) for an internship, student teaching, or to commute from home. Students attending branch campuses have health fee options and should contact their branch campus director. For further information on the health center contact Peehan Health Center at 724-357-6475 or *health-inquiry@iup.edu.*

Instructional Fee

All students are charged an instructional fee to support academic equipment, library resources, maintenance and repair projects, recreational facilities, and the advancement of technologies. The fee is $230 per semester for full-time students and $19.20 per credit for part-time students.

International Student Orientation Fee

An international student orientation fee of $75 will be charged to all international students who register for the IUP orientation program to support associated costs.

Late Registration Fee

Students who desire to register on the day prior to the start of classes, designated by the university as Late Registration Day, will be assessed a Late Registration Fee of $50. Students who register for classes after completion of the university's Late Registration Day will be assessed a Late Registration Fee of $100. Exceptions to this fee may be granted by the provost or designee for students admitted late to the university for reasons deemed appropriate by the provost or designee.

Miscellaneous Costs

In some courses, students are required to obtain supplies and materials to complete course projects. In many courses, a student may make a voluntary contribution to a cooperative fund established for the purpose of obtaining

these supplies and/or services at a lower cost. Examples are art courses, field trips, etc.

Estimated Expenses Per Semester

	In-State	*Out-of-State*
Tuition	$ 2,299	$ 5,748
Housing	1,470	1,470
Meals	963	963
Student Activity Fee	199	199
Health Fee	85	85
Instructional Fee	230	230
Technology Fee	50	75
Registration Fee	30	30
Books and Supplies*	500	500
	$ 5,826	$ 9,300

*Cost of books and supplies may vary depending on major and class enrollment. Miscellaneous and travel expenses will be additional.

National Student Exchange Program Fee

A one-time $125 nonrefundable fee will be charged to IUP students participating in the National Student Exchange Program. Students attending IUP under the National Student Exchange Program will be charged the Pennsylvania resident basic fee and have the application fee waived.

Off-Campus Instructional Fee

A fee of 10 percent of the undergraduate in-state tuition rate will be charged to students taking courses at an off-campus site and/or using distance education technology to cover operating costs for services and instructional support at off-campus sites. Also, students enrolling in School of Continuing Education off-campus locations beyond a 25-mile radius will be charged this fee.

Registration Fee

All students will be charged a registration fee of $30 per semester.

Residence Hall Fee

This academic year's room fees for residence hall students are $1,470 a semester for a double-occupancy university residence hall room, $2,100 for a single university residence hall room, and $2,200 for a super single room. Resident students are required to have a dining plan and can select from five plans (see Dining Fees).

Student Activity Fee

This fee is collected from all students and administered through the Student Cooperative Association under regulations approved by the Council of Trustees. This fee of $198.50 for full-time and $80 for part-time students per semester covers the cost of student activities in athletics, lectures, entertainment, student publications, etc., and is payable in one sum for the semester. Students attending the Armstrong or Punxsutawney campuses pay $192 per semester full-time and $73.50 part-time.

Technology Fee

This fee is assessed for the purpose of acquiring, installing, and maintaining up-to-date and emerging technologies to enhance student learning outcomes. The fee will be assessed to all students per semester as follows:

Pennsylvania Residents:	Full-time	$50	Part-time	$25*
Nonresident Students:	Full-time	$75	Part-time	$38*

*The part-time rate for the technology fee is a flat rate per term, regardless of the number of credits taken.

Testing Fee

Each entering freshman must participate in placement testing during the summer immediately preceding the student's matriculation on campus. A fee of $140 is assessed for this overnight, two-day experience for students admitted to the Indiana campus. Parents pay a nominal fee for their participation in the accompanying parent orientation program. Branch campus students participate in a summer one-day diagnostic testing experience with a fee of $70. Students receive information about the summer testing program prior to the testing date(s). Fees are included in the regular billing and are nonrefundable. Please see the catalog section on Orientation for further information about the Summer Orientation, Preregistration Placement Testing, Advising, and Course Selections Program.

Summer Sessions Fees (based on Summer, 2004)

Basic Fee

The basic fee for undergraduate students enrolled for any of the regular summer sessions is $192 per credit for in-state students and $479 per credit for out-of-state students.

Summer Dining Plan Fees

The five-week session dining plan fees for summer are:

Plan A	19 meals per week	$290 (or $58 per week)
Plan B	Any 14 meals per week	$270 (or $54 per week)
*Plan D**	Any 10 meals per week	$260 (or $52 per week)
*Plan G**	Any 5 meals per week	$150 (or $30 per week)

*Off-campus students only

Instructional Fee

All students are charged an instructional fee to support academic equipment, library resources, maintenance and repair projects, recreational facilities, and the advancement of technologies. During the summer, all students are charged $19.20 per credit.

Registration Fee

All students will be charged a registration fee of $30 for the summer term.

Summer Residence Hall Fee

The summer university dorm room fees are $98 a week for a double-occupancy room and $142 a week for a single room. Students are charged for each session according to the number of weeks they require housing. Resident students can select from two dining plans, 19 meals per week or 14 meals per week.

Student Activity Fee

This fee in the summer session is $12.50 per credit (up to a maximum $150).

Student Health Fee (Summer)

There is no mandatory health fee in the summer. All summer student health fees are optional. For further information, contact the health center at 724-357-6475 or *health-inquiry@iup.edu*.

Technology Fee

This fee is assessed to all students per summer session as follows:

In-state: $25 *Out-of-state:* $38

Special Fees

Damage Fee

Students are responsible for damages, breakage, loss, or delayed return of university property.

Examination for Credit Fee

A fee of $40 will be assessed for each examination taken for credit.

Installment Payment Charge

A nonrefundable fee of $30 per semester is charged to students participating in the monthly installment payment plan, and a $10 per semester fee is charged for students participating in the semi-semester option of the plan.

Portfolio Application/Assessment Fees

A fee of $15 will be charged to students applying for prior learning evaluation, and a fee equal to one-half of the prevailing tuition fee will be charged for all credits granted in the portfolio application.

Teacher Certification Fee

A fee of $75 payable to the Commonwealth of Pennsylvania is charged to cover the administrative and recording costs for the issuance of a teaching certificate by the Department of Education. A $35 fee is charged for students applying for out-of-state certification.

Transcript Fees

Applications for transcripts can only be made in writing to the registrar, either by U.S. mail, fax, or on forms available at the Registrar's Office in Clark Hall. Forms may also be downloaded from the Registrar's Office website at *www.iup.edu/registrar/forms*. Such requests must include

1. Your full name, Social Security number, and student user ID number at the time of your graduation or termination of enrollment at IUP. (Please note any name changes since graduation.)
2. Your present address.
3. Whether you graduated or, if not, when you were enrolled.
4. The full and clearly stated name(s) and address(es) of person(s) to whom you wish the transcript(s) to be sent.

A fee is not charged for an official transcript. A maximum of seven transcripts can be ordered for any given day. Special handling charges will be assessed for express or fax transcript service. For more information, see the website *www.iup.edu/registrar/trans* or call 724-357-2217.

Official transcripts (containing signature and university seal) will not be issued directly to students. The university will attempt to mail official transcripts within a reasonable time. However, in the event of its failure to do so, in no case is the university responsible for consequential damages.

Billing and Payments

All bills, including basic fee and housing fee, are payable as specified on the billing notice; students have several payment plan options. Checks or money orders, in the exact amount of the billing notice, should be made payable to IUP unless otherwise specified. MasterCard, Visa, and Discover cards are also accepted. Book Store purchases are on a cash basis.

It is desired that payments for the entire semester be made in August for the first semester and in December for the second semester; however, for a nominal charge an installment plan is available.

Payment of Financial Aid

The following financial aid programs can be deducted from your university bill:

- Federal Stafford Loan
- Federal PLUS Loan
- Federal Perkins Loan
- Federal Pell Grant
- Federal Supplemental Educational Opportunity Grant
- Pennsylvania State Grant
- IUP scholarships

Federal Work Study earnings are paid directly to the student every other week and thus are not used for billing purposes.

All other financial aid is paid directly to the student's account. If a credit balance exists after satisfying all IUP charges, excess funds will be refunded to the student for other educational expenses.

Delinquent Accounts

Students are not permitted to enroll for any semester, receive transcripts, or graduate until all account balances have been paid in full. Also, credit will not be certified to any other institution until all overdue accounts have been paid. A late payment fee of $10 for each day past the due date will be assessed for delinquent accounts up to a maximum of $50. The same regulations will also be applied to inter-semester payments.

Undergraduate students desiring to leave school before the close of a semester must report to the Advising and Testing Center and to the Office of the Bursar to settle all unpaid accounts.

IUP Refund Policy

For a copy of IUP's Refund Policy or a sample refund calculation, please contact Student Financial Services at 724-357-2207. The Refund Policy is also available on their website at *www.iup.edu/bursar*.

Financial Aid

The Financial Aid Office, located at Clark Hall, offers financial information and counseling to all students attending IUP. The types of financial assistance offered by the Financial Aid Office include student employment, educational loans, scholarships, and grants. Counseling on debt management and loan repayment options is also available.

Eligibility Requirements

The general requirements for financial aid eligibility include the following:

1. Be enrolled on at least a half-time basis (6 credits per term) except for the Federal Pell Grant program and Federal Work Study program.
2. Be a U.S. citizen, national or permanent resident, or other eligible noncitizen.
3. Maintain satisfactory academic progress in your course of study.
4. Be enrolled or accepted for enrollment in an Associate Degree, Bachelor's Degree, Postbaccalaureate Teacher's Certification program, or Postbaccalaureate Second Undergraduate Degree program.
5. Not be in default or have failed to make satisfactory arrangements to repay any Federal Student Loans.
6. Not owe a repayment on a Federal Pell Grant or Federal Supplemental Educational Opportunity Grant.
7. Not have borrowed in excess of any Federal Loan limits.
8. Register with the Selective Service Administration, if required.
9. Have a valid Social Security Number.

Students must submit a *Free Application for Federal Student Aid* prior to April 15 in order to receive maximum consideration for need-based financial aid administered through the university. The Title IV school code for IUP is 003277. Additional forms or applications may be required depending upon which student aid programs are being sought. Financial aid is available for both the regular academic year and the summer sessions. Separate applications for summer school aid must be submitted by the student.

Student Responsibilities Students who apply for financial aid have certain responsibilities which are listed below:

1. Accurately complete and submit the appropriate application forms by the published deadline dates.
2. Submit requested materials, corrections, or new information on a timely basis.
3. Meet the regulations and repayment schedules of student loans.
4. Inform the Financial Aid Office of any grants, scholarships, or loans received from outside organizations.
5. Inform the Financial Aid Office of any information that has changed since applying for aid.
6. Understand the satisfactory academic progress requirements for maintaining financial aid eligibility.
7. Use financial aid funds for educational purposes only.

Financial Aid Programs Available

Financial assistance is available in the form of grants and scholarships, student employment, and educational loans. Each of these funding sources has unique characteristics which are explained in more detail below.

Employment

The Student Employment Center is available to assist students in finding job opportunities on campus or in the local community. Students may gain access to a listing of available positions by doing any of the following:

- asking to review the employment binder located in the Student Employment Center in the Office of Career Services, 302 Pratt Hall
- reviewing the bulletin board located outside the office
- accessing the on-line job listing at *www.iup.edu/sec* (24-hour accessibility)

The Student Employment Center also assists students in finding summer employment. During the spring semester, a Summer Job Fair is conducted providing IUP students the opportunity to meet with representatives from a variety of organizations (i.e., camps, amusement parks, resorts, recreation areas, and restaurants, to name a few). Representatives from local and out-of-state organizations attend the fair. Students may gain access to a listing of seasonal job opportunities by visiting the Student Employment Center's website or by stopping by the office to review literature provided by these organizations.

Students may be employed on campus for up to twenty-five hours per week when classes are in session and up to forty hours per week during breaks, including summer. When classes are in session, most students work an average of ten to twelve hours per week. Students are paid every two weeks for the hours they have worked. Generally, undergraduate students are paid at the minimum wage rate, which is currently $5.15 per hour.

All students are eligible to work on campus.* There are two basic types of funding sources: (1) Federal Work Study Program (FWSP) and (2) University Employment (UE). Eligibility for FWSP is based upon demonstrated financial need as determined from the *Free Application for Federal Student Aid* (FAFSA), which must be completed every year. Inquiries about eligibility for FWSP should be directed to the Financial Aid Office. Students who do not demonstrate financial need may seek UE.

An FWSP award may affect your eligibility for student loans. For more specific information on how an FWSP award would impact your loan eligibility, inquire at the Financial Aid counter in the lobby of Clark Hall or by e-mail at *financial-aid@iup.edu*.

Off-campus employment opportunities vary by organization, as do the hourly wages and hours worked per week.

*International students' circumstances may vary. Please consult Student Payroll Services for additional information (724-357-2510, Sutton Hall, Room G-8).

Serve-Study Program–This employment program places FWSP-eligible students in community service positions available both on and off campus. In addition to earning money, students gain practical work experience related to their academic major. The Service Learning Center, which assists students in obtaining these opportunities, is part of the Office of Career Services located in 302 Pratt Hall.

PHEAA State Work Study–Off-campus employment that relates to the student's academic major may be available through the Pennsylvania Higher Education Assistance Agency (PHEAA) State Work-Study program. Applications are available in the Financial Aid Office and must be completed by both the student and the organization for which the student would like to be employed. Applications can also be accessed through PHEAA's web site at *www.pheaa.org*.

Educational Loans

Loan programs offer repayable assistance to students who apply and qualify for them. Repayment terms, interest rates, and borrowing limits vary from program to program. Educational loans are a serious and important obligation. Receipt of funds means that the student assumes the legal responsibility for repayment of the loan at a future date. The promissory note for the loan specifies the terms and conditions under which the student is borrowing and the repayment provisions that are in effect. Participation in Community Service positions after leaving school may provide for repayment of certain student loans.

Federal Perkins Loan–The application for the Federal Perkins Loan is the *Free Application for Federal Student Aid* (FAFSA). The loan is awarded to students on the basis of financial need and FAFSA receipt date of April 15 or earlier. Students who receive this loan must be enrolled for at least 6 credits each semester. There are no principal or interest payments until nine months after the student ceases half-time attendance (6 credits per term). The minimum repayment rate is $40 per month at a simple interest rate of 5 percent per year on the unpaid balance. There are deferment and cancellation provisions available.

Federal Stafford Loan–The application for the Federal Stafford Loan is the *Free Application for Federal Student Aid* (FAFSA). By responding on the FAFSA that you are interested in a student loan, eligibility will be reviewed for you. First-time borrowers will also receive a Federal Stafford Loan Master Promissory Note (MPN) for completion in order to finalize the approval process.

Through this program, freshmen may borrow up to $2,625 per academic year, sophomores may borrow up to $3,500 per academic year, and juniors and seniors may borrow up to $5,500 per academic year. An academic year at IUP is defined as the fall, spring, and summer terms. Subsidized Federal Stafford Loans are awarded on the basis of financial need as determined by the FAFSA and require no payment of interest or principal until six months after the student ceases half-time enrollment (6 credits per term). Unsubsidized Federal Stafford Loans require payment or capitalization of interest only during periods of enrollment and the six-month grace period. Following the grace period, both types of Federal Stafford Loans are repayable to the lender at a variable interest rate not to exceed 8.25 percent.

Federal Stafford Loan entrance counseling must be completed by first-time borrowers at IUP before funds can be released.

Additional unsubsidized Federal Stafford Loan funds are available to independent undergraduate students. Freshmen and sophomores may request up to $4,000; juniors and seniors may request up to $5,000. Dependent students whose parents cannot obtain a Federal PLUS Loan may also apply for these additional unsubsidized funds.

Federal PLUS Loan–Parents interested in obtaining a Federal Parent Loans for Undergraduate Students should contact the Pennsylvania Higher Education Assistance Agency (PHEAA) in order to establish their eligibility for the loan through PHEAA's preapproval process. PHEAA can be contacted at 1-800-692-7392. Applications will be forwarded to eligible families. Parents may borrow for their dependent children up to the cost of education minus other financial aid. The loans are repaid at a variable interest rate not to exceed 9 percent per year starting sixty days after the final check is issued.

Alternative Loans–A wide variety of privately financed educational loan programs are available. Each of these programs offers unique terms and conditions that affect its availability in particular circumstances. Check the IUP webpage at *www.iup.edu/financialaid* for specific contact information.

Grants

Grants are funds which carry no obligation for repayment. These funds are awarded to the student on the basis of financial need.

Federal Pell Grant–The Federal Pell Grant program provides funds to eligible undergraduate students who have not earned a first bachelor's degree. A *Free Application for Federal Student Aid* (FAFSA) must be filed annually to apply for this grant. Awards are prorated based upon the number of credits for which a student registers.

Federal Supplemental Educational Opportunity Grant (FSEOG)–Federal Pell Grant-eligible students are considered for FSEOG. A *Free Application for Federal Student Aid* (FAFSA) with a receipt date of April 15 or earlier must be on file. Students who receive FSEOG must be enrolled for at least 6 credits each semester.

Pennsylvania State Grant (PHEAA Grant)–PHEAA Grants are available to eligible part-time and full-time undergraduate students who are Pennsylvania state residents. Part-time recipients must also meet specific PHEAA income guidelines. You must complete a *Free Application for Federal Student Aid* (FAFSA) by April 15 to apply. First-time applicants are also required to complete a PHEAA information form. Academic progress guidelines require that a student earn 12 new credits for each full-time semester for continued eligibility of grant funds. A maximum of eight full-time or sixteen part-time semesters of eligibility are permitted.

State Grants–Many state educational agencies offer grant assistance to students who study outside of their state of residency. Out-of-state students are encouraged to investigate opportunities for grant funding from their home state.

Scholarships

IUP Scholarships–Departments, colleges, and the Provost's Office administer various scholarship programs that have been established by alumni and friends of the university. These scholarships provide gift assistance to academically talented students and assist them in financing their educational expenses. No general application is required for consideration. All eligible students are automatically considered for scholarship opportunities. Questions may be directed to the college dean or department chair of the student's intended major or current major for enrolled students. For further information, please see the website *www.iup.edu/scholarships*

Private Scholarships–Various service clubs, organizations, churches, schools, and industries offer scholarships to students. High school guidance offices, libraries, and hometown newspapers are often excellent sources for information concerning private scholarships. A valuable resource on the Internet can be found at *www.fastweb.com*.

ROTC Scholarships–Two- and three-year scholarships are available to both male and female students who are enrolled in the Reserve Officer Training Corps program. The scholarships pay for tuition, fees, and books, plus $250 per month for ten months per school year. Interested students may obtain applications and criteria information by contacting the ROTC department in Pierce Hall at IUP or by calling 1-800-IUP-ROTC.

Other Resources

Athletic Grants-in-Aid–IUP participates in intercollegiate athletics as a Division II institution and awards Athletic Grants-in-Aid in accordance with NCAA rules and regulations. Interested students should contact the Athletic Director, Memorial Field House, IUP, Indiana, PA 15705; telephone: 724-357-2751.

Resident Assistants–Upperclass students and freshmen at the end of their first year may apply to become resident assistants at IUP. Students earn a room and board waiver, as well as a small stipend, by working as resident assistants in IUP residence halls. Application timetables and deadlines are advertised in *The Penn* and posted in the residence halls and other locations around campus, including the Office of Housing and Residence Life website. The application process requires references and participation in a semester-long training program prior to selection. Resident assistants are selected on the basis of leadership, interpersonal skills, and the willingness and ability to serve as role models. Resident assistants must have and maintain a 2.3 GPA. For further information, please contact present resident assistants or residence directors or the Office of Housing and Residence Life, B31 Clark Hall, 1090 South Dr., IUP, Indiana, PA 15705; telephone: 724-357-2696.

Office of Vocational Rehabilitation Assistance (OVR)–Students who have physical or learning disabilities may receive educational benefits through the OVR. In order to be eligible, students must satisfy the physical and financial requirements of the agency. For further information, students should contact their county office of vocational rehabilitation.

Pennsylvania National Guard Educational Assistance Program (EAP): Students who join the Pennsylvania Army National Guard are eligible for a 100-percent tuition grant through the EAP. Eligible students make a commitment to serve for six years in the Pennsylvania National Guard, serving one weekend a month and two weeks per year. In return, they receive ten semesters of 100-percent tuition, applied to either part-time or full-time study. Applications and information are available in Room F6, Pierce Hall, or by calling 724-357-4560 or 1-800-IUP-ROTC.

University Loan Fund

The Financial Aid Office, in conjunction with the Student Cooperative Association, administers the University Loan Fund on behalf of IUP students. Loans are only available to students who are expecting a financial aid refund that is yet to be disbursed. The maximum loan available will be $300 with repayment to be made in sixty days. No interest will be charged for these loans. Loans will be made to meet educational expenses only. Applications for the University Loan and additional information may be obtained at the Financial Aid Office.

The University Loan Fund encompasses the following individual loan accounts:

- Jennie E. Ackerman Loan Fund
- Robert Bellis Loan Fund
- Mary Edna Flegal Loan Fund
- Colette Cromer Gershman Loan Fund
- Margaret Flegal Harte Loan Fund
- Suzanne Marshall Hartman Loan Fund
- John Hays Memorial Fund
- Oliver W. Helmrich Memorial Loan Fund
- William Henzelmann Memorial Fund
- Mary Anne Kolessar Loan Fund
- Jane E. Leonard Memorial Loan Fund
- Mack Loan Fund
- Rusty Preisenderfer Memorial Loan Fund
- Flossie Wagner Sanford Student Loan Fund
- Varsity I Loan Fund
- Norah Zink Loan Fund

Veterans Benefits

The Veterans Affairs Office certifies enrollment for undergraduate and graduate students who may be eligible for veterans assistance.

Veterans, reservists, and children of deceased or disabled veterans should contact the Veterans Affairs Office prior to enrollment.

Veterans must submit:
1. Application for Benefits (VA Form 1990)
2. Certified DD214

Reservists must submit:
1. Application for Benefits (VA Form 1990)
2. Notice of Basic Eligibility (DD2384)

Children of a deceased or disabled veteran whose death or injury was due to service-related causes may be eligible for educational assistance from the federal government under Law 634 (Dependents Educational Assistance Act). Immediately upon acceptance to IUP, men and women who qualify for such assistance should contact the veterans counselor and submit:
1. The Eligible Veteran DD214
2. Survivors Education Form 22-5490
3. Application for Benefits (VA Form 1990)

A veteran receiving VA benefits must request a change in curriculum clearance from the veterans counselor before changing curriculum. Twelve credits are required to be considered a full-time undergraduate student by the Veterans Administration. The minimum full-time requirement for a graduate student is 9 credits.

In addition to regular sources of financial aid, veterans and dependents of veterans may be eligible for VA benefits. For further information, veterans are urged to contact the Veterans Counselor, 126 Clark Hall, IUP, Indiana, PA 15705, 724-357-3009.

Title IV Satisfactory Academic Progress Policy

In order to receive Title IV Federal Student Assistance, students must maintain satisfactory academic progress in their course of study. Students must be in compliance with both the university's Academic Standards Policy and the Financial Aid Sufficient Progress Policy in order to demonstrate satisfactory progress.

The Title IV Federal Student Assistance programs include the Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal

Perkins Loan, Federal Work Study Program, Federal Stafford Loan, and Federal PLUS Loan.

A student who meets the standard of academic good standing of the Academic Standards Policy but who does not meet the standard of sufficient quantitative progress may continue in university registration but without financial aid eligibility for the federal Title IV aid programs.

A full statement of requirements for Satisfactory Academic Progress for Title IV Federal Student Assistance is available through the Financial Aid Office.

Title IV Financial Aid Sufficient Progress Policy

The Financial Aid Sufficient Progress Policy applies to undergraduate students enrolled in the university.

A. Sufficient Progress: To be in good standing on a sufficient progress basis, a student must have earned at least 75 percent of the cumulative number of attempted credits at IUP and complete his/her degree within the time frame for degree completion (see Item C of this policy) and be in compliance with the university's Academic Standards policy.

"Attempted credits" is the number of credits for which a student is enrolled at the end of the Drop/Add period.

Each student will be measured for sufficient progress annually after fall grade processing. This evaluation will determine if the student has a sufficient percentage of credits earned in order to be eligible for Title IV funding for the next financial aid award year (Fall term through the following Summer term).

Students will be notified of their financial aid suspension status when a completed *Free Application for Federal Student Aid* (FAFSA) is on file in the Financial Aid Office.

B. Financial Aid Suspension: If a student does not meet the sufficient percent of progress evaluation after two consecutive annual reviews, then all Title IV aid for that student will be suspended beginning with the next financial aid award year (Fall term through the following Summer term).

A student who is in this financial aid suspension status, however, will also be reviewed at the end of the spring semester and summer terms in order to evaluate if the percent of progress has been met through additional coursework. If this improvement to 75 percent of progress is achieved, then the student's Title IV financial aid suspension will be rescinded beginning with the next term of enrollment.

C. Time Frame for Degree Completion: In addition to meeting the 75 percent of progress requirement, all students must complete their degree requirements within an established time frame. Since enrollment status may vary from semester to semester, the maximum time frame for degree completion is measured in terms of credits attempted at IUP plus any credits accepted in transfer to IUP.

An undergraduate student in a program requiring 120 credits must complete the requirements for a bachelor's degree without exceeding 160 credits, including transfer credits and IUP registered credits. Note that 160 credits represents 133 percent of the credits required for completion of the degree.

D. Appeal Process: For students who have experienced unusual circumstances which have led to a lack of sufficient progress, such as medical emergencies or death of a family member, a written appeal may be submitted to the Financial Aid Appeals Committee for consideration of reinstatement of Title IV aid eligibility.

A student who would like to appeal his Title IV financial aid suspension for the next financial aid award year must submit a written appeal to the Financial Aid Appeals Committee. This written appeal must specifically outline the reason(s) for the deficiency and how the student will make up this deficiency. For students who do not appeal for fall review, or who are denied an appeal for the fall semester, an appeal for reinstatement of Title IV aid for the spring term will be accepted for review.

After reviewing the written appeal of a student in Financial Aid Suspension, the Financial Aid Appeals Committee may decide to reinstate Title IV financial aid eligibility for specific periods of the next financial aid award year. All appeal letters will be answered in writing by the Financial Aid Appeals Committee as to the approval or denial of the requested financial aid reinstatement.

E. Reinstatement of Title IV Aid Eligibility: For a student who has Satisfactory Academic Progress deficiency, one of the following must occur in order for that student to receive Title IV assistance:

1. The student can reestablish eligibility for Title IV assistance by meeting the minimum requirements for Satisfactory Academic Progress through additional periods of enrollment at IUP.
2. For a student who has not met the minimum criteria for Satisfactory Academic Progress due to unusual or mitigating circumstances and has filed an appeal(s) which has granted the student continuance of financial aid eligibility, Title IV aid funds may be reinstated.

F. Treatment of Audits, Incompletes, and Other Grades: In order that a student fully understands how various grades and enrollments impact upon the calculation of Satisfactory Academic Progress, the following information is provided:

1. **Audits and "S" and "U" Grades:** Because course audits and "S" and "U" grades carry no credits, they are not reviewed or counted for sufficient progress purposes.
2. **Incompletes:** Designations of "I," "L," "R," and "*" are treated as credits attempted/zero credits earned/no effect on QPA. However, these designations are treated as noncompleted credits and have an impact in the calculation of the percent of progress measure. (Note: The "*" is an administrative symbol indicating that a grade was not submitted by the instructor at the time of grade processing.)
3. **"F" Repeat with Replacement:** An "F" repeat with replacement is treated as credits attempted/credits earned/with the quality points of the new grade replacing the 0.00 QP of the original "F" grade. An "F" repeat has a positive effect on the QPA and the percent of progress even though it represents an additional number of credits attempted in regard to the percent of progress measure.
4. **"D" Repeat with Replacement:** Repeated classes that are "D" replacements to a student's record are treated as credits attempted/ zero credits earned/with the quality points of the new grade replacing the 1.00 QP of the "D" grade. A "D" repeat with replacement may improve a student's QPA but decreases your percent of progress.
5. **Repeats with Averaging:** Courses that are repeated with averaging count as credits attempted/credits earned/with the quality points for the class averaged into the QPA. The maximum time frame for degree completion may be impacted by repeat with averaging classes.
6. **Withdrawals:** Designations of "W" and "Q" are treated as credits attempted/zero credits earned/no effect on QPA. Any type of "W" and/or "Q" designation is treated as noncompleted credits in the calculation of the student's percent of progress standing.
7. **Pass/Fail Grades:** Pass grades are treated as registered credits/credits earned/no effect on QPA. Fail grades are treated as registered credits/ zero credits earned/with zero QP averaged into the calculation of QPA
8. **Noncredit Courses:** Noncredit classes, such as those with Continuing Education Units (CEUs), are not used in measuring sufficient progress, since these classes cannot be applied towards degree requirements and no financial aid may be received for enrollment.
9. **Institutional Credits:** Institutional credits are counted as registered credits/credits completed. The QP for the course is not averaged into the student's overall QPA.
10. **Cancelled Semester:** All credits for which a grade of "C" or better is earned in that cancelled semester are counted as credits attempted/ credits earned.
11. **Fresh Start Program:** In the case of students readmitted under the Fresh Start Program, past semesters will still be considered when progress is evaluated.

Student Programs and Services

The services and programs listed in this section are the result of collaborative efforts by student affairs professionals and faculty members to offer the IUP student a unique and fulfilling undergraduate and graduate student experience. All services, with the exception of the Speech and Hearing Clinic, Parking, Student Rights/Directory Information, Students Rights Under the Family Educational Rights and Privacy Act, Student Technology Services, Computer Software Policy, and Wireless Communications Policy, are under the direction of the Vice President for Student Affairs.

Student Affairs Division Areas

Website: *www.iup.edu/studentaffairs*
E-mail: *IUP-PAWS@iup.edu*

Rhonda H. Luckey, Interim Vice President for Student Affairs

Admissions: James S. Lynch, Associate Vice President for Enrollment Management and Dean of Admissions
Advising and Testing: Catherine M. Dugan, Director
African American Cultural Center: Carolyn D. Princes, Director
Athletics: Frank J. Condino, Director
Career Services: Mark E. Anthony, Director
Counseling and Psychological Services: Kim Weiner, Department Chair
Financial Aid: Christine A. Zuzack, Director
Housing and Residence Life: James R. Froelicher, Interim Director
Office of International Affairs: Michele L. Petrucci, Director
Learning Enhancement Center: Carmy G. Carranza, Director
Student Conduct: Kathleen R. Linder, Director
Student Cooperative Association: Dennis V. Hulings, Director
Center for Student Life: Terry Appolonia, Director
University Health Services: Scott R. Gibson, Interim Director

The Division of Student Affairs offers a variety of services and programs that support the academic mission of Indiana University of Pennsylvania. These services and programs were designed to meet the needs of IUP students as they learn how to become leaders for tomorrow, live together in harmony, make ethical decisions, accept and appreciate diversity, identify and strengthen professional skills, develop good mental and physical health practices, and enhance ways to learn and impart knowledge.

Admissions

Website: *www.iup.edu/admissions*
E-Mail *Admissions-Inquiry@iup.edu*

(See the Admissions and Registration section of this catalog for information.)

Advising and Testing Center

Website: *www.iup.edu/advisingtesting*
E-mail: *Advising-Testing@iup.edu*

The Advising and Testing Center provides a variety of services to IUP students and faculty. The center runs the summer orientation program, offers career planning classes and computerassisted career counseling to undecided majors, coconducts registration for January freshmen and branch campus students, processes undergraduate total university withdrawals, serves the needs of students with disabilities, and assists in providing advising information to students and advisors.

Services for Students with Disabilities

Disability Support Services (a unit of the Advising and Testing Center) is the primary agent for the provision of access for IUP students with physical, learning, and other disabilities. Faculty and staff members within the office serve to ensure IUP's program access compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Students with disabilities are urged to register with the office. Services provided may include, but are not limited to, early registration; assistance in locating accessible housing; equipment loan; test proctoring and reading; notetaking; recording of books; NCR paper; liaison with faculty, OVR, and BVS; and general advising and counseling. Further information may be obtained in 216 Pratt Hall or by calling 724-3574067 (V/TD).

African American Cultural Center

Website: *www.iup.edu/aacc*

The African American Cultural Center is dedicated to the enhancement of multicultural awareness and racial sensitivity. Through educational, cultural, and social activities, the center strives to foster growth, development, awareness, and sensitivity among all members of the university community while it focuses on preserving and fostering an appreciation of African American history, culture, contributions, and development.

Athletics

Website: *www.iup.edu/athletics*

Varsity Sports

The university offers nineteen varsity sports for men and women. It competes at the Division II level of the National Collegiate Athletic Association and is in the Pennsylvania State Athletic Conference.

Men's sports offered in the fall include cross country and football. The winter sports include basketball, indoor track, and swimming. Spring sports are track and field, golf, and baseball.

Women's fall sports are cross country, soccer, volleyball, and field hockey. In the winter, the sports of basketball, indoor track, and swimming are offered. Spring sports include softball, track and field, lacrosse, and tennis.

Intramurals

A well-organized and varied program of intramural sports and athletic activities is conducted for men, women, and on a coeducational basis. Intramural handbooks are available in Room 101, Memorial Field House.

Career Services

Website: *www.iup.edu/career*
E-mail: *career-services@iup.edu*

Career services are available to students and alumni, and career counseling is provided to students of all class levels as well as to alumni. In addition to career counseling, the primary functions of the office are to arrange for campus interviews, prepare a current file of job opportunities, maintain an extensive library of occupational information, conduct follow-up studies of graduates, and provide general assistance in the career planning and job-seeking process.

The Office of Career Services also receives and makes available to graduates and undergraduates information concerning summer employment and internships.

The university does not guarantee positions, but IUP's record of placement is one of the very best in Pennsylvania.

Service Learning offers IUP students curriculum-based, wage-supported, and volunteer opportunities to explore, expand, and fulfill their altruistic interests. Service Learning works closely with nearly sixty Indiana County human service agencies and six school districts to place students in volunteer host sites.

Career Exploration/Undecided Majors
Students with undecided majors are encouraged to explore options for majors as early as possible while at IUP; to delay doing so may delay graduation. Students desiring to explore majors may take a 1-credit course, ADVT 170 Career Exploration, taught by the Advising and Testing Center, or use the Career Exploration Center (CEC), 108 Pratt Hall. The CEC is open afternoons and early evenings during the week. Appointments may be made by calling 724-357-5701.

Internships/Cooperative Learning
Many departments of the university have developed internship/cooperative education programs which allow a student to participate in university-supervised work experiences for variable academic credit. Internships/co-ops are viewed as an integral part of a student's academic preparation. An internship/co-op gives the student an opportunity to apply theoretical and philosophical tenets of a discipline in a practical job experience related to the student's academic program.

For general information about university internships, co-ops, and placement options, the students should consult the internship coordinator in the Office of Career Services, 302 Pratt Hall, or their department internship/co-op coordinator, or visit the website *www.iup.edu/internships.*

Experiential Education Office
The Harrisburg Internship Semester (T.H.I.S.)
The Harrisburg Internship Semester is available to an exceptional student from any IUP major for the fall or spring semester. The program provides a semester-long experience at the policymaking level in the executive or legislative branches of state government as well as independent boards, agencies, or commissions. Students will earn 15 credits.

Requirements for eligibility are 57 or more earned credits and an overall GPA of at least 3.0. Applicants must also submit a sample of their writing skills which must be a copy of an IUP writing assignment that has been graded by an instructor.

T.H.I.S. consists of an internship with a research project for 12 credits and an academic seminar for 3 credits. The program is directed by a Pennsylvania State System faculty member elected to direct the program in Harrisburg. The faculty member will be the site supervisor and teach the seminar course. Grades and credits will be recorded on the students' academic progress reports at IUP. See the course descriptions under UVWD 480 and 493.

Housing with kitchenette is arranged through The Harrisburg Internship Semester Program at minimal cost to students. Students must first pay IUP tuition, room, and board and then be partially reimbursed via a biweekly paycheck during the semester. Students are responsible for their own transportation costs between their home and Harrisburg.

T.H.I.S. is offered through the Internship Center, Office of Career Services, in conjunction with the academic department of the successful candidate. Applications are submitted to the Internship Office, 302 Pratt Hall. Deadline for submission for fall is March 1; the spring semester deadline is October 1. See the website *www.iup.edu/internships* for more information.

Center for Counseling and Psychological Services

Website: *www.iup.edu/counselingcenter*

Counseling and Psychological Services faculty members are psychologists who are assisted by advanced graduate students from the doctoral program in clinical psychology and masters students in counseling. These professionals facilitate the personal and emotional growth of students by offering confidential counseling and consultation on an individual and small-group basis. Beyond the health services fee, additional fees are not charged for counseling services.

Faculty members provide consultation to faculty, staff, families, and friends of students regarding mental health issues. Programs and workshops are conducted on a variety of topics, including stress management, eating disorders, grief, and healthy relationships. For more information, contact us at 357-2621 or visit 307 Pratt Hall.

Financial Aid

Website: *www.iup.edu/financialaid*
E-mail: *financial-aid@iup.edu*

(See the Financial Aid section of this catalog for information.)

Health Services (Pechan Health Center)

Website: *www.iup.edu/healthcenter*
E-mail: *health-inquiry@iup.edu*

Pechan Health Center operates an outpatient clinic and provides routine health care to students while classes are in session. The outpatient clinic is staffed with physicians, nurse practitioners, and nurses. For emergency care, the local hospital emergency room is available (ER services are not covered by the health service fee). For students who have paid Health Service Fee A, the university will help support the cost of local ambulance service. If the student's health insurance policy does not include coverage of the ambulance, the student will not be responsible for the cost of the service.

In addition to clinical care, including some minor surgical procedures, some laboratory testing, and allergy injections, Pechan Health Center offers a self-care cold center. The health center has a van to transport students to local medical facilities for scheduled appointments. The service is available during the time the health center is open (ending 30 minutes prior to closing each day or in the event of severe weather). The health fee also provides support for the programs and services of the Health Awareness office in the Center for Student Life and psychological services provided by the Center for Counseling and Psychological Services.

Students pay a per-semester mandatory health fee, which varies based upon the student's enrollment status. Some services and products are included in the health fee while others, such as medications and physicals, require an additional fee-for-service. Refer to the Finance section of this catalog for basic fee information. The health service fee is not an insurance plan. It is highly recommended that students who are not covered under a family insurance plan consider purchasing coverage prior to arriving at IUP. Pechan Health Center does not bill insurance companies for services. However, students receive a receipt for each visit that can be used to submit the bill to his/her insurance company. Information about the student group health insurance plan endorsed for IUP students is available from Pechan Health Center or on line at *www.chpstudent.com.*

IUP requires documentation of dates of immunization from new students for the following vaccines: measles, mumps, rubella, tetanus, toxoid-diphteria, and polio. Individuals born after 1956 should receive a second measles immunization prior to entering college. It has always been important to update diphtheria and tetanus immunizations every ten years. Students living in university-owned residence halls and apartments are required to have the vaccination for meningococcal meningitis or to sign a waiver stating that they do not wish to have the vaccination. The documentation must be included on the Student Health Form and can take the form of

1. Dates of vaccinations by the health care provider who gave them or
2. Date of illness with the disease diagnosed by a physician or
3. Serum antibody level as determined by a blood test.

Students will receive a copy of the Student Health Form from the Health Service after they receive notification of admission to IUP. The form must

be returned to the Pechan Health Center prior to the start of classes. Students who do not provide documentation for immunization may be prohibited from registering for classes the semester following admission. Please e-mail *health-inquiry@iup.edu* for questions about the heath center or the health insurance plan.

Student Health Insurance

Consolidated Health Plans, Inc. (*www.chpstudent.com*) is the only student group health insurance plan endorsed for IUP students. It is a high-quality and cost-effective insurance plan that works in partnership with the health center. For more information, e-mail *health-inquiry@iup.edu* or call 724 357-6475.

Housing and Dining Information

Website: *www.iup.edu/house*
E-mail: *iup-ohrl@iup.edu* or *iup-dining@iup.edu*

Residence Life

IUP is a residential campus. Its thirteen residence halls and two apartment buildings are supervised by professional residence directors with backgrounds in student development or counseling or by graduate residence directors enrolled in the Student Affairs in Higher Education graduate program.

It is the policy of IUP to offer full, equal, and nondiscriminatory assistance to all students without regard to their race, color, religion, national origin, gender, ancestry, sexual orientation, or physical ability in both the placement in university housing and the furnishing of facilities and services in relation to that housing.

Specific programs and services offered within the residence halls provide a residential program which supports the academic mission of the university and fosters the development of a community in which the rights and responsibilities of each individual are clearly defined and respected.

Because residence hall living is seen as a positive educational experience, students are encouraged to live on campus unless they are commuting from home. In an effort to make residence hall living more responsive to individual needs, the university offers several living arrangements. Student options include coed or single-sex environments; interest floors related to academic majors; intensive study floors; a community service floor; and substance-free floors. Students should consider these options carefully and select the one where they would feel most comfortable.

IUP's two apartment buildings provide single student housing in an apartment-style setting. The university provides cable TV, local telephone service, Ethernet connections to the Internet, stove, refrigerator, kitchen table and chairs, beds, dressers, and living room furniture in each apartment.

Rooms/apartments are available to both undergraduate and graduate students enrolled at IUP. Each year the university reviews its housing policies and revises them according to needs for the following year. The Office of Housing and Residence Life is also responsible for dining service and providing information and services related to off-campus housing. The Office of Housing and Residence Life is located in B31 Clark Hall, 724-357-2696.

Residence Hall Application

First-year and transfer students will be offered residence hall license agreements as soon as they remit the $75 tuition prepayment required to secure a place in the incoming class. The housing license agreement should be reviewed carefully then returned with an $80 housing prepayment by May 15. Rooms will be assigned as agreements are received with notification to students by July 15.

Continuing students may contract for university housing for the following academic year according to the process published and posted in January.

Students being readmitted or returning from student teaching or study abroad programs should contact the Office of Housing and Residence Life for agreements.

Dining Services

IUP offers seven meal plans, six of which are available to residence hall students. Refer to the Finance section of this catalog for meal plans and fees. For more information contact *iup-dining@iup.edu*.

Residence Hall Association

The Residence Hall Association (RHA) represents all students living in university residence halls. The executive body of RHA is composed of elected representatives from each residence hall. The purpose of RHA is to provide educational, social, and community service programs for residents; to collect information on various aspects of residence hall life; and to assist in formulating housing policies and procedures. All residence hall students are encouraged to participate in RHA. Inquire at your residence hall office for involvement opportunities.

Office of International Affairs

Website: *www.iup.edu/international*
E-mail: *intl-affairs@iup.edu*

The Office of International Affairs (OIA) provides the leadership for IUP's involvement in a wide range of international activities and initiatives. The main purpose of the OIA is to internationalize the campus through exchange, programming, and other initiatives.

The OIA is a central source of information which provides special services for admitted international students, visiting scholars, and international visitors and faculty. The office is also the main resource and support for study abroad programs (both international and national) and international programming. The office provides the following services to students:

- an extensive orientation program for new international students
- advising on immigration matters
- counseling on cultural and personal matters
- preparation and processing of immigration documents
- medical insurance information for international students and exchange/study abroad participants
- financial assistance to qualified students through the partial tuition waiver
- a predeparture orientation program for exchange and study abroad participants
- a reentry program for participants returning from exchange or study abroad
- multicultural programming for the campus and Indiana community

In addition, this office supports Culturelinks, a volunteer program which connects students to the larger community. Culturelinks provides an opportunity for international students to share their perspectives and cultural traditions with others in the university and in the community. The office also sponsors Coffee Hours which are open to all members of the community. Trips for international and exchange students to New York City and Pittsburgh are arranged and partially funded through OIA.

International Exchange and Study Abroad Programs

Through the OIA, IUP students may broaden their education by taking part in study abroad programs.

The office houses an exchange/study abroad resource library. Students seeking information on academic programs offered by educational institutions in this country and abroad are welcome to read the materials available in the office. Qualified students planning to travel or study abroad may also purchase the International Student Identity Card–good for discounts, identification, and insurance–in the Office of International Affairs.

More information about each of the following programs and programs instituted after the date of this publication can be obtained in the Office of International Affairs, Wallace Annex, 724-357-2295, or at the website *www.iup.edu/international*.

Australia, Wollongong. This exchange is open to all students. Wollongong University of Australia is located on the eastern shore of Australia, is similar in size to IUP, offers across-the-board curriculum, and is available for semester or academic year exchanges. Their fall semester runs from July to November, and the spring semester is from February to June.

Bangladesh, Dhaka. Students studying business, computer science, economics, environmental studies, sociology, anthropology, and public administration have the opportunity to study for a semester or an academic year at North South University in Dhaka. The language of instruction is English.

Belize, Belize City Students interested in Caribbean culture have the opportunity to study for one semester or an academic year at the University College of Belize in Belize. Courses will be primarily in business, humanities, social sciences, and natural sciences and mathematics. The language of instruction is English.

Brazil, São Carlos. Students studying in the Eberly College of Business and Information Technology have the opportunity to study in Brazil for one semester or an academic year. The language of instruction is Portuguese.

Brazil, São Paulo. Students studying in the Eberly College of Business and Information Technology have the opportunity to study in Brazil for one semester or an academic year. The language of instruction is Portuguese.

China. Three exchanges in Beijing, Suzhou, and Shanghai are sponsored through the Professional Studies in Education Department. Interested students can attend Shanghai Teachers University, Beijing Capital Normal University, or Soochow University and experience Chinese culture and language for a semester of an academic year. The language of instruction is Chinese.

China, Chengdu Students studying in the Eberly College of Business and Information Technology have the opportunity to study for one semester or an academic year at the Southwestern University of Finance and Economics. Language of instruction is Chinese.

Colombia, Bogota. Students with Spanish fluency interested in Colombian culture have the opportunity to study for one semester or an academic year at the Universidad de Los Andes. Courses are offered in business and social science.

Costa Rica, Heredia (summer). A four-week intensive Spanish language program is offered in the summer at the National University of Costa Rica. For details and brochures, contact the Spanish Department.

Croatia, Zagreb. Students studying in the College of Fine Arts have the opportunity to study for one semester or an academic year at the Academy of Fine Arts and the Academy of Music at the University of Zagreb. The language of instruction is English.

England, Bristol. Students wishing to enroll in courses in the areas of computer science, economics, politics, sociology, history, and European social studies may study during the fall semester at the University of the West of England, Bristol.

England, Greenwich. Students can attend for fall or spring semester or for a full academic year exchange. Courses are offered primarily in the field of education.

England, Leeds. Students wishing to be in an English city environment will find Leeds a perfect choice. Exchanges are for a fall or spring semester or the full academic year. Courses are offered in accounting, business, economics, and public relations.

England, Liverpool. Education students can attend a fall or spring semester or the full academic year at the University of Liverpool. Full curriculum is available.

England, Oxford (summer). A three-week educational and cross-cultural experience is offered in the summer at Oxford University.

England, Sheffield Students studying business have the opportunity to study for a semester or academic year at Sheffield Hallam University.

England, Worcester. Students are offered an opportunity to study at Worcester College of Higher Education for one semester or an academic year. Courses are offered in a variety of fields of study.

Europe (ETEN). This exchange is for education majors. Study at the following schools: in Denmark, at Hogvangseminariet, Ribe Statsseminarium, or Silkeborg Seminarium; in the Netherlands at Haagse Hogeschool University of Professional Education or Hanzehogeschool; in Norway at Adger/Oslo or Stord University College; or in Sweden at Malmo University and Goteborg. Exchange times vary for each exchange. Some exchanges offer courses in a language other than English.

Finland, Tampere. Students studying business or occupational safety are eligible to study at Tampere University of Technology for a semester or academic year. The language of instruction is English.

France, Nancy. The opportunity to study for one semester or academic year at the University of Nancy II (140 miles from Paris) is available to qualified students. The language of instruction is French. For business majors, courses are taught in English. For details, contact the French and German Department or, for business majors, the College of Business and Information Technology.

France, Nancy (summer). Two programs, one for English-speaking and one for French-speaking participants, are offered in the summer.

Germany, Duisburg. A semester or academic year program at the University of Duisburg is available to qualified students who possess the required German language competency. Courses are offered in German language, literature, culture, business, and natural sciences. The language of instruction is German. For further information, contact the French and German Department.

Germany, Leipzig. Graduate students in business may study one semester at the Leipzig Graduate School of Management at the University of Leipzig. M.B.A. courses are offered in all fields of business administration and economics. Advanced undergraduates with high GPAs may be considered. Most courses are taught in German.

Germany, Nurnberg Students studying in the Eberly College of Business and Information Technology have the opportunity to study for one semester or an academic year at the Nurnberg University of Applied Sciences.

Greece, Thessaloniki Undergraduate students looking for a great all-around, European study abroad experience can travel to American College of Thessaloniki (ACT) for one semester or one academic year. Classes are available for all majors, and the language of instruction is English.

Hungary, Pecs. Students interested in Hungarian culture have the opportunity to study abroad for a semester or academic year at Janus Pannonius University. Courses are offered in the following areas: history of East-Central Europe, political development, economic reform, social change, arts and culture, and Central European studies. The language of instruction is English.

Ireland, Dublin City Students majoring in communications media and journalism can attend Dublin City University for a fall or spring semester or a full academic year exchange.

Italy, Syracuse. Not fluent in Italian, but interested in Italian language and culture? Then you should consider studying at the Mediterranean Center for the Arts and Sciences. A wide range of liberal studies courses are available. The language of instruction is English.

Italy, Turin. Check out this great opportunity for graduate and undergraduate students studying business administration and economics or other related fields. Study at Universita Degli Studi di Torino, Scuola di Amministrazione Aziendale (SAA) for one or two semesters. The language of instruction is Italian.

Japan, Osaka The opportunity to study for a semester or one academic year at Kansai Gaidai University is available to students interested in Japanese culture. A variety of courses are offered in the Asian Studies Program. The language of instruction is English.

Kenya, Kenyatta This exchange is for education majors desiring to experience African education while earning credits toward their degree. Study at Kenyatta University for a semester or an academic year. Language of instruction is English.

Macau, Taipa. This exchange focuses on business study and offers courses in the following areas: accounting, computer studies, economics, finance, management, and mathematics. The language of instruction is English.

Malaysia, Kuala Lumpur. All students are welcome to attend INTI College, a private university, which offers a full curriculum. Exchanges are available for fall or spring semester or for a full academic year. Language of instruction is English.

Mexico, Cuernavaca (summer). Students who are studying Spanish and have an interest in experiencing Mexican culture have an opportunity to participate in a summer study program that is offered at the Center for Bilingual and Multicultural Studies, an affiliate of the University of Morelos. For details and brochures, contact the Spanish Department.

Mexico, Puebla Students wishing to enroll in courses in Spanish, business, international relations/studies, anthropology, and hotel and restaurant management with an interest in Mexican culture have the opportunity to study at the Universidad de las Americas, Puebla, for one semester or academic year. The languages of instruction are Spanish and English (specific programs).

Norway, Kristiansand. Students may take courses offered in art, economics, social sciences, education, fine arts, and more. The language of instruction is English.

Poland, Opole. This exchange is open to psychology and studio art majors. Attend Opole University for a semester or and academic year exchange. The languages of instruction are Polish and English.

Poland, Poznan Students studying chemistry, criminology, English, industrial and labor relations, journalism, physics, psychology, and teacher education have the opportunity to study for a semester or an academic year at Adam Mickiewicz University. The language of instruction is Polish; however, many courses are offered in English.

Russian Federation, Vladikavkaz IUP students may study at North Ossetia State University for a semester or academic year. Language of instruction is Russian.

Slovak Republic, Bratislava Courses in Slovak language, Slovak literature, culture, and history, English literature, English culture and history, political science, sociology, physics, and psychology are available to interested students at Comenius University. The program is for one semester or an academic year.

Slovenia, Ljubljana. Students studying in the College of Fine Arts have the opportunity to study for one semester or an academic year at the Academy of Fine Arts and the Academy of Music at the University of Ljubljana.

Spain, Barcelona Juniors and seniors, fluent in Spanish, with an interest in experiencing Spanish culture, have an opportunity to enroll in management, marketing, and tourism classes at Escuela Superior de Marketing I Administration. The language of instruction is Spanish.

Spain, Valladolid Students who have completed twelve university credits in Spanish and have an interest in experiencing Spain's culture have an opportunity to participate in the Pennsylvania Valladolid Study in Spain Program during the spring semester. This experience will enable students to spend a period of twenty weeks immersed in Spanish culture and language at the University of Valladolid. For details and brochures, contact the Department of Spanish.

Sweden, Karlstad Students wishing to enroll in a range of courses with a desire to experience Swedish culture are invited to study at Karlstad University. The language of instruction is English.

Taiwan, Taipei Experience life in the capital of Taiwan at Tamkang University. Across-the-board curriculum is offered for semester or academic year exchanges. Languages of instruction are Chinese and English (specific programs).

Turkey, Ankara Students have the opportunity to study for one semester or an academic year at Middle Eastern Technical University in Ankara. Courses are taught in Turkish and English.

Zimbabwe, Harare Students studying in the biological sciences have the opportunity to study for one semester or an academic year at the University of Zimbabwe. Courses are taught in English.

International Student Exchange Program (ISEP)

The ISEP offers a wide range of educational and cultural experiences for one semester or academic year for participants at over one hundred institutions in thirty-five different countries (summer and longer exchanges are also possible). If you do not speak a foreign language, you still have many sites in which the language of instruction is English. If you do speak a foreign language, you have even more options. These programs are priced at the in-state IUP rate for all participants. For more information, visit the website at *www.isep.org*.

National Student Exchange (NSE)

Under the NSE, IUP is part of a national university network that enables undergraduate students to study for up to one academic year at any of over one hundred seventy-one colleges and universities. In addition, this exchange of students enables IUP students to enroll at any of these universities without having to pay out-of-state, nonresident tuition fees. While on exchange, students have the opportunity to experience a different learning environment, to broaden social and cultural awareness, and to live in another part of the United States. (Alaska, Canada, Guam, Hawaii, Puerto Rico, and the Virgin Islands are included.) Study abroad sites are also available. For more information, visit the website at *www.nse.org*.

International Student Teaching Opportunities

IUP students enrolled as teacher education majors in all certification areas are eligible to participate in this half-semester student teaching program in the following areas: Copenhagen, Denmark; London, England; Worcester, England; Paris, France; Malahide, Ireland; and Gronigen, The Netherlands. See the College of Education and Educational Technology section of this catalog for further information.

The Learning Enhancement Center

Website: *www.iup.edu/lec*

The Learning Enhancement Center (LEC) is committed to helping underprepared students prepare, prepared students advance, and advanced students excel. With this motto as its mission, the Learning Enhancement Center provides various academic support services to all IUP students.

The LEC offers a package of freshman seminar courses designed to prepare first-year students with the skills and knowledge important to college success. These three 1-credit courses count toward graduation and include LRNC 150 Introduction to Higher Education, LRNC 160 Learning Strategies, and LRNC 170 Career Exploration.

The LEC also offers a pre-college experience to all incoming first-year students called CUSP: The Early Entrance Experience. This program starts one week prior to fall classes and includes the course LRNC 150 Introduction to Higher Education plus activities, workshops, and seminars designed to orient students to the higher education experience, to IUP in particular, and to the factors in student success.

In addition, courses are offered which develop learning skills to enhance academic success. Courses in three levels of developmental mathematics (LRNC 091, 092, 093) and two courses in reading (LRNC 070, 075) are offered for institutional credit. Institutional credit counts in determining full-time enrollment status but not in determining credits applicable for degree eligibility at graduation.

The LEC provides noncredit educational support services in the areas of reading, writing, mathematics, biological and physical sciences, foreign languages, social sciences, study skills, and related areas. These services are provided by both professional and undergraduate paraprofessional staff. Students are encouraged to participate in a broad array of program services including one-to-one and group tutorials, workshops, and Supplemental Instruction sessions provided by a trained staff of undergraduate paraprofessionals. These services are available in most content areas, as well as in general study skills.

All students matriculating through the LEC as LEC advisees, including full-time students admitted for the Associate of Arts degree, receive a program of freshman-year courses, developmental advisement, and academic support services.

Act 101 Program
Students identified as eligible for Act 101 support receive the Learning Enhancement Center freshman program. The Act 101 Program, created as a result of the Pennsylvania Higher Education Equal Opportunity Act 101 in 1971 by the legislature of the commonwealth, focuses on servicing IUP students in order to make the ideal of equal educational opportunity a reality for all qualified students.

The LEC office is located in 202 Pratt Hall. Further information about the Learning Enhancement Center and the Act 101 Program can be obtained by calling 724-357-2729 or through the web at *www.iup.edu/lec*.

New Student Orientation

Website: *www.iup.edu/advisingtesting/orientation.html*
E-mail: *Advising-Testing@iup.edu*

IUP offers a two-part orientation program for all new students. Freshmen are expected to participate in both of the programs, as they are intended to provide information and programs which are designed to insure a successful firstyear experience.

Summer Orientation: The preregistration placement testing, advising, and course registration program occurs during the summer immediately preceding students' matriculation on campus. This experience is designed to assess academic readiness for courses integral to the IUP curriculum, including English, mathematics, and foreign languages. Students admitted to the Indiana campus, Honors College, or the Learning Enhancement Center program participate in an overnight, two-day experience which includes testing, academic advising, and orientation to university curricular requirements and cocurricular opportunities. Students who are admitted as branch campus freshmen participate in a one-day program. Concurrent parent orientation programs are offered.

Fall Orientation: Fall Orientation occurs as students move onto campus immediately prior to the beginning of fall classes. Programs and activities are designed to assure a smooth transition from the home environment to IUP's campus community.

IUP views this two-part orientation as unique and extremely important to freshman retention and satisfaction with the university. The freshman year is critical in regard to academic success. During this time, students must simultaneously develop academic competence in the college curriculum and adjust to the personal decision-making process college life affords. Each of the programs is designed to assist in this important college adjustment process. Freshmen are expected to participate fully in this two-part program.

CUSP: The Early Entrance Experience, a formal, credit-bearing orientation program, is offered by the Learning Enhancement Center (LEC). For more information, see the LEC section of this catalog.

Student Conduct

Website: *www.iup.edu/studentconduct*

The Office of Student Conduct provides direction and leadership for the administration of university policies and regulations regarding student behavior. This includes the adjudication of alleged violations by individual students and recognized student organizations.

IUP is an academic community within the society at large. As a community, the university has developed a code of standards and expectations that are consistent with its purpose as an educational institution. IUP reaffirms the principle of student freedom, coupled with an acceptance of full responsibility for one's behavior and the consequences of such behavior. As a member of the academic community and of the larger society, a student retains the rights, protections, guarantees, and responsibilities that are held by all citizens.

The intent of this educational system is to create behavioral change in the student; promote civility, openness, and justice; and also protect the rights of the members of the university community. The judicial system of IUP exists to review all alleged violations of university regulations and/or federal, state, and local ordinances. The system will hold the student accountable for his/her actions when IUP regulations or statutes have been violated.

The primary function of the judicial system is to adjudicate alleged policy violations by students that occur on campus. The university reserves the right to adjudicate violations by students in off-campus locations when those violations might adversely affect the university community. The university maintains the right to amend its rules and to make such amendments effective immediately upon appropriate public notification of students. A complete statement of regulations is available in the student handbook at *www.iup.edu/studentconduct/source*. For more information, contact us at 724-357-1264 or visit Sutton Hall, Suite 401.

Student Cooperative Association

Website: *www.iup.edu/coop*
E-mail: *Co-op-Store@iup.edu*

The Student Cooperative Association has played an extremely broad role in the cocurricular life of the university for more than seventy years. All students and faculty and staff members who pay the Activity Fee are members of the association. Virtually all campuswide activities outside the instructional program are sponsored wholly or in part by the association.

The Activity Fee is the chief source of income for the association's programs. The student's I-Card will admit him/her free of charge or at a reduced fee to university social, cultural, and athletic events. Other income for the association comes from the profits of the Co-op Store and income from events sponsored by the association.

The Student Cooperative Association operates the Hadley Union Building complex, which houses the Co-op Store and the Fitness Center. The Hadley Union Building, built by association members through the Activity Fee, offers many facilities for use by the university community.

The Co-op Recreational Park comprises 270 acres of wooded hillsides and fields. Included are a lodge building which will accommodate groups of up to two hundred people, a ski hut, an eighteen-station exercise course, cross-country skiing and hiking trails, a picnic shelter, an archery range, two softball fields, a golf practice range, and a pond for fishing.

Student Publications

The Penn, IUP's campus newspaper, is published three times a week during the fall and spring semesters by students wishing to gain practical newspaper experience. Interested students are advised to attend organizational meetings held in the beginning of each semester. *The Penn* will carry notices of subscription drives. Applications for staff positions may be obtained from *The Penn* office. An on-line version can be found at *www.coop.iup.edu/sc*.

The Source (the student handbook) is distributed to all students electronically at *www.iup.edu/studentconduct/source*. It is maintained by the Office of Student Conduct and includes rules and regulations, the cocurricular program, and general information of interest to students.

Center for Student Life

Website: *www.iup.edu/studentlife*

As participating members of the IUP community, students occupy a responsible role in governing and shaping campus life. Since a valuable part of education lies in participation in groups and activities where experience in leadership, social and community responsibility, intellectual curiosity, and spiritual interests can be met, active participation in varied organizations is available and encouraged.

There are currently more than 220 recognized student organizations at IUP advised by faculty or staff selected by the students. Students are also encouraged to initiate and support new groups which reflect interests not represented by existing organizations.

Under the direction of the Center for Student Life and funded for the most part by the Student Cooperative Association, many activities are orchestrated by students and offer entertainment and cultural programs for the entire university community. These activities provide a significant opportunity for students to become more involved with their campus as well as to experience the growth and personal development that involvement provides.

Organizations and activities sponsoring many IUP events include the Ideas and Issues Lecture Series, On Stage Arts and Entertainment Series, and the University Concerts. These contemporary and performing arts series provide students both entertainment and educational experiences with many of today's most popular and classic artists.

Health AWAREness maintains a learning-centered philosophy by developing and delivering educational programs on issues that impact the social, physical, emotional, and spiritual lives of students. Health AWAREness addresses the needs of all students by dealing with issues related to sexuality, HIV, eating disorders, assault, alcohol and drug use, self-esteem, body image, and stress management.

Student Congress

The Student Congress is the representative and recognized voice of IUP's student body. The Student Congress was reconstituted in the spring of 1989 to be a unified voice in a bicameral (two-house) arrangement. It is led by a president and a vice president elected at-large in a spring general election. The primary responsibility of the Student Congress House lies with the student members of various university advisory bodies, including the Student Cooperative Association Finance Committee, which allocates funds in support of university activities. Each member of the Student Congress Senate serves as a representative on the University Senate, the institution's chief governing body. The Student Congress meets weekly. Every student enrolled at IUP is considered a member of the SC, and input is always sought and welcome. For more information, visit our website at *www.coop.iup.edu/sc* or 210A HUB or contact us at 724-357-1302.

Veterans Affairs

Website: *www.iup.edu/veteran*
E-mail: *Vets@iup.edu*

The Veterans Affairs Office provides many services to veterans, including academic support, tutoring, housing assistance, financial aid, and general information. The office is located in 126 Clark Hall. For information on forms, please call 724-357-3009. The Federal Veterans Office telephone number is 800-827-1000.

The following services are available to IUP students but are not a part of the Division of Student Affairs

Speech and Hearing Clinic

For more information about the Speech and Hearing Clinic, see the College of Education and Educational Technology section of this catalog.

Parking

Website: *www.iup.edu/police*

Students, faculty, and staff members who park vehicles in campus parking areas must register their vehicles with the University Police Office. Resident students will be issued parking permits for the following reasons: medical necessity, student teaching, or other academic need for a vehicle. A written application must be submitted to and approved by the Parking Authority Review Board. Parking will be available to resident students not meeting the aforementioned criteria. They may park for a fee in the Robertshaw lot or in the campus parking garage. The University Police Office is located in the Administrative Annex basement and can be contacted for information on parking. Rules and regulations can be accessed at the website *www.iup.edu/police*.

Student Rights/Directory Information

The following information is considered directory information under the Family Educational Rights and Privacy Act (the Buckley Amendment of 1974) and may be released without the student's permission: name, address, telephone number, major, student activities, weight and height (athletic teams), dates and status of attendance, dates of graduation, degrees and awards received and where received, most recent educational institution attended, and e-mail username.

Students may request that directory information not be publicly released by completing a form available in the Office of the Registrar, Clark Hall Lobby. Forms must be filed by the end of the first week of fall semester classes in order to have directory information omitted from the printed Campus Directory. Upon receipt of this signed form in the Registrar's office, all information will be withheld, even beyond graduation, unless the student requests in writing that this nondisclosure request be rescinded.

Students Rights Under the Family Educational Rights and Privacy Act

FERPA affords students certain rights with respect to their education records. They follow.

1. The right to inspect and review the student's education records within forty-five days of the day the university receives a request for access. Students should submit to the Registrar, college dean, department chair, or other appropriate official, written requests that identify the records they wish to inspect. The university official will arrange for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the official to

whom the request was submitted, that official will advise the student to whom to direct the request.

2. The right to request amendment of the student's education records that he/she believes are inaccurate or misleading. Students should submit such requests in writing to the appropriate university official. The written request must clearly identify the part of the record the student wants to be changed and must specify why it is inaccurate or misleading. If the university decides not to amend the record as requested, the student will be notified by a university official of the decision, and the university official will advise the student of his/her right to a hearing regarding the requested amendment. Additional information regarding hearing procedures will be provided to the student when he or she is notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception which permits disclosure without consent is to school officials with legitimate educational interests. A school official is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Council of Trustees; a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his/her professional responsibility. This includes school officials in other institutions to which a student is seeking admission or intends to enroll.
4. The right to file a complaint with the United States Department of Education concerning alleged failures by IUP to comply with the requirements of FERPA. The name and address of the office that administers FERPA follows: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-4605.

Student Technology Services

Student Technology Services (STS) provides proactive and reactive measures to assist students of IUP with orientation to and use of computers and other technology at IUP. One of the goals of STS is to provide students with a place to go for advice and assistance with issues related to computers and other technology on the campuses of IUP.

The Student Computing Help Desk can address student questions concerning e-mail, web pages, computer account usage, network services such as the 50MB of personal space, etc. Students may contact the help desk via phone (724-357-2198) or e-mail (*Student-HelpDesk@iup.edu*). The web page at *www.iup.edu/ats/sts* includes several sections which might help students to answer their own questions. Students are also welcome to visit the Student Computing Help Desk at 139 Gordon Hall for personal assistance with their computing problems. The Student Computing Help Desk is open from 10 a.m. until 6 p.m. weekdays.

Computer Software Policy

It is the policy of IUP that contractually protected and/or copyrighted computer software shall not be improperly copied, distributed, or used by its employees, students, or affiliated organizations. It is the responsibility of each member of the university community to adhere to this policy and to enforce it with regard to those they supervise. If any member of the community has a question regarding the propriety of using software, he/she is responsible for contacting his/her supervisor for direction. The supervisor may in turn refer the questions to the director of Academic Technology Services for a decision on what constitutes proper use. The full text of the policy is available at *www.iup.edu/academicaffairs/policies*.

University Computing Resources Policy

University resources are limited, and the right to use computing resources in the iup.edu domain does not extend to activities which unfairly deprive other potential users of access to computing resources, or which impose an unnecessary burden upon the university. Matters governing the management and security of the information network and associated computer systems shall follow the Information Assurance Guidelines and associated procedures as approved by the Technology Utilities Council. All users have an obligation to use resources responsibly, aware that their use does cost the university, the Commonwealth of Pennsylvania, and citizens real money to provide.

Computing administration has an obligation to suspend activities which they deem to pose a clear and present threat to the efficient operation of and equitable access to university computing resources. Such suspension should whenever practical, be accompanied by warning and a clear explanation of the inappropriate activity. The user has the right to appeal the suspension through the faculty, employee, or student judicial processes.

Wireless Communications Policy

Policies and procedures related to wireless communication shall be developed and endorsed by the Technology Utilities Council and forwarded to the president for approval with consideration of recommendations from the Academic Computing Policy Advisory Committee, Academic Technology Operations Group, and Administrative Computing Oversight Committee.

Existing procedures and policies related to the administration and management of the campus network shall apply to all extensions of that network including wireless components.

Existing procedures and policies related to the security and integrity of the campus network apply to wireless communication.

In order to facilitate wireless communication, a portion of the radio airspace within and beyond the campus will serve as the network transport medium and be considered the wireless airspace.

The shared use of the wireless airspace will not be actively monitored. However, the university may restrict the use of radio devices in university-owned buildings and buildings owned by affiliated entities and all outdoor spaces on IUP property that adversely impacts the integrity of the campus data network.

Definition: Wireless Airspace: The airspace addressed by this policy is that defined by the IEEE 802.11 DSSS (Direct Sequence Spread Spectrum) wireless LAN specification. This includes, but is not limited to, the FCC unlicensed 2.4 GHz Industrial/Scientific/Medical (ISM) band, the 2.5 GHz band, and the 5 GHz band as defined in the 802.11a and 802.11b specifications.

Academic Policies

Note: Please see individual college sections for policies pertaining only to particular colleges and majors.

Classification of Students

In order to be classified as full-time for the fall, spring, or summer semester, undergraduate students must be currently enrolled in at least 12 credits.

Full-time classification for students enrolled in instructional periods which do not conform to the regularly scheduled academic sessions will be based upon the number of enrolled credits during that period of enrollment (e.g., 1 credit in one week of instruction would equal the minimum full-time certification standard).

For purposes of designating students by class, the following credit classification ranges are used:

Freshmen	28 credits or less
Sophomores	29-56 credits
Juniors	57-90 credits
Seniors	91 credits or more

Class designations are based on credits earned rather than credits attempted. Persons holding a degree and working for a second baccalaureate degree may be classified as seniors.

Normal Credit Loads

A normal credit load is 15-17 credits. A student who wishes to schedule 18 or more credits must obtain approval from the dean of the college in which he/she is registered; approval will be predicated upon various criteria such as the student's demonstrated competencies, total courses, and specific conditions. If approval is granted, the dean will set the credit limit and make the appropriate computer entry. A student is responsible for paying a per-credit fee at the current tuition rate for each credit beyond eighteen.

Schedule Changes (Drop/Add)

IUP's registration system, University Records and Systems Assistant (URSA), is characterized as one of continuous registration. From the student's initial registration time for a given semester through the end of the drop/add period, a few days into the semester (except for specified restricted times), a student may modify his/her schedule to the extent that classes are available or permission to register for a closed or restricted section has been granted and entered into the computer system. Each student is responsible for making appropriate computer transactions to ensure schedule accuracy. Deadlines for the opportunity to drop or add sections can be found in the academic calendar at the website *www.iup.edu/ursa*. Note that, while the department may enter permission to register for a section, the student must complete the actual registration transaction on URSA.

Advanced Placement and Credit/Exemption Examinations

Courses taken by students prior to college admission under the Advanced Placement Program of the College Entrance Examination Board may be recognized by the award of college credit or by exemption from required subjects. Those who earn a grade of 3, 4, or 5 in the Advanced Placement Examination will be granted credit toward the number of credits required for graduation.

For students who have had other unusual opportunities for instruction or have advanced in a given field, an opportunity to gain credit and/or exemption from a course is afforded through examinations. University Testing Services in the Career Services Office (302 Pratt Hall) offers credit options through the College Level Examination Program (CLEP).

Students have an opportunity to gain exemption or credit through successful completion of comprehensive examinations by requesting from the academic department an exam as a substitute for completing all the usual requirements of the course.

A student who passes an exemption examination will be exempt from taking that course in his/her academic program. When a student receives credit for a course by examination, the credit will be applied to graduation requirements just as though the course had been taken. If a student is granted exemption only (no credits) from a course, he/she will be permitted to take a free elective in place of that course. This enables the student to specialize further, correct weaknesses outside the major field, build knowledge in an ancillary area, or be introduced to an entirely different area.

Courses for which credit or exemption are awarded by examination will not be used in the determination of grade-point averages.

Internship/Cooperative Education

Students may apply for an internship if they have completed 57 credits and have at least a 2.0 GPA. Internship sites are normally located within a 500-mile radius of the campus. Overseas placements are located near an IUP center. Internships are available in state and federal offices; businesses at the local, state, and national level; state-related agencies; corporations; and foundations.

Students may apply for a co-op if they have completed 30 credits and have at least a 2.0 GPA. Two experiences are required. Sites are national and international. Placements parallel those of the internship program.

Because internships are viewed as an integral part of the student's academic program, students who are interested in specific internship programs should consult with the internship advisor in the department of their major. A maximum of 12 credits is applicable to an undergraduate degree program from any combination of co-op and internship experiences.

Prior Learning/Portfolio Assessment

Prior Learning Assessment Programs

IUP offers several methods for earning university credit for college-level learning gained through work and life experience. Through the Office of Career Services, the College Level Examination Program (CLEP) offers standardized examinations in general and specific subjects. In addition, departmental examinations are available in specific areas on a limited basis.

Where examinations are not available, portfolio assessment may provide the student with the opportunity to present evidence of learning for evaluation by a university faculty member. Through portfolio assessment, work and life experiences are evaluated to determine their appropriateness and applicability for university credit. Credits earned through prior learning assessment may not be applied toward university residency requirements for awarding of degrees. In addition, no more than one-half of the credits required for a student's major may be earned by CLEP, departmental examination, and portfolio assessment. Contact the School of Continuing Education for information regarding portfolio assessment.

Policy: IUP has authorized a policy for assessment of prior learning that took place outside traditional classrooms in a procedure known as Portfolio Assessment. It is particularly designed for adults with extensive documentable knowledge from work experience, travel, independent study, or other out-of-class experiences.

Principles:

1. Credit awarded through portfolio evaluation must conform to specific course titles listed in this catalog. Credit awards for general broad areas (block credit) will not be permitted.

2. In order to request a portfolio assessment, the student must be currently enrolled at IUP. Credit awarded must be intended for use as part of a degree or certification program.
3. Each department will determine the maximum number of credits to be awarded for prior learning for its major. In no case will more than one-half of the major be earned through CLEP, challenge examinations, and other forms of prior learning assessment.
4. Credits earned through portfolio assessment may not apply as residency credit for the purpose of awarding degrees.
5. Credits earned through portfolio assessment may be awarded only as regular course credit.
6. If a related examination is available through CLEP or if a challenge examination has previously been established for the course, a portfolio assessment of those credits will not be accepted.
7. Acceptance of portfolio assessment credits by the department will be indicated by the signature of the chairperson of the department offering the course. The dean of the appropriate IUP college and the assistant dean of the School of Continuing Education must also indicate approval.
8. Students may qualify solely for undergraduate credit–not graduate credit.
9. The title of the course, the credits, and the indication that credit was earned through Portfolio Assessment will be recorded on the academic record.

Procedures:

1. Student meets with the assistant dean of the School of Continuing Education to determine the feasibility of earning credits through portfolio evaluation. Standard outlines of related courses are provided to student.
2. Preliminary Application Form–Student must provide a resume and answer the following questions:
   a. What have you learned that relates to this course?
   b. Where and when have you learned it?
   c. What documentation do you have that supports the claim?
3. A handbook to assist students in compiling a portfolio will be printed. It will show how to relate to the written portfolio learning gained through work experience, independent study, and other experiences. Evidence of learning through documentation of experience, completion of a project, and written examination will be explained. If there is sufficient demand, a workshop will be conducted to assist students.
4. Fees:
   Application Fee per Assessment: $15.00
   Assessment Fee: one-half the current rate of tuition per credit for each credit requested; to be paid when portfolio is submitted for evaluation.
5. The application will be submitted to the assistant dean of the School of Continuing Education. Upon approval, the chairperson of the department offering the course will be requested to suggest the name of a faculty member to the dean of the college for approval.
6. The faculty member will meet with the student to determine the technique of assessment or a combination of techniques to be used, including interviews, documentation, observation of performance, examination, etc.
7. After the portfolio has been prepared by the student, it will be submitted to the assistant dean of the School of Continuing Education for review, then forwarded to the appointed faculty member for assessment.
8. The faculty member will evaluate the portfolio, then make a recommendation for or against the award of credit and the amount of credit in the form of a letter, which must be approved and countersigned by the chairperson of the department offering the course. The portfolio will be forwarded to the dean of the college which oversees the student's curriculum to approve and verify that the course will be accepted as part of the student's program. Finally, the portfolio is sent to the assistant dean of the School of Continuing Education, who will notify the student and the registrar.
9. The registrar will list the course title, credit, and an indication that credit was earned through Portfolio Assessment.

Advisory Program

A group of selected faculty members act as freshman advisors for entering freshmen in their departments. In some curricula the advisors continue with the same group of advisees from year to year. In other curricula the freshman advisors remain with their advisee groups only for the students' first year; under this program, the student is then assigned an academic advisor for the remaining years through to his/her degree in a chosen field.

Faculty advisors counsel the students on academic achievement, dropping courses, changing curriculum, student activities, study schedules, and personal problems.

Change of Major

For students changing majors (or minors) in the College of Education and Educational Technology or in the Eberly College of Business and Information Technology, special policies apply. Please refer to the individual college sections in this catalog for change of major policies pertaining to specific colleges and majors.

To qualify for change of major, a student must be in academic good standing (2.00 GPA) *and* must meet any other requirements specific to the major. Criminology majors and all teacher certification programs have requirements beyond a 2.00 GPA.

A student must apply for a change of major in the office of the dean of the college in which the student is registered if the curriculum change desired is from one department to another within the same college (for example, change from a mathematics major to a biology major) or in the office of the dean of the college to which the student wishes to transfer if the curriculum change is from one college to another (for example, secondary education major to biology major). In either case, the student will complete an application form that is available in the dean's office. Before seeking a change of major, it is advisable that the student consult with the departmental chairpersons of both the "old" and "new" majors.

When a student changes colleges, the dean (or dean's agent) of the college into which the transfer is sought will evaluate the student's credits before approving the transfer. A copy of the evaluation will be made available to the student and his/her new advisor if a change of major is effected.

In cases involving students who are veterans, the dean of the college into which transfer is sought (or dean's agent) shall give the veteran a statement of prospective approval and the effective date of the proposed changes. This statement shall also indicate the amount of extended training time the change of major will entail and the amount of credit loss, if any. The veteran shall take this statement to the veteran's counselor at least one month prior to the effective date of the change. No transfer of curriculum shall be made by veterans until V.A. approval has been assured.

Dual Bacealaureate Degrees

A student who has earned a minimum of 28 undergraduate credits from IUP and is in good academic standing may apply to pursue a second baccalaureate degree concurrently with the first. This application must be submitted to the dean of the college in which the major program of study for the second baccalaureate degree is housed. If admitted to a second baccalaureate degree program, the student must designate one of the two degree programs to be primary. To receive both degrees at graduation the student must earn at least 30 credits beyond the requirements of the designated primary program of study. The student must earn a minimum of 150 credits to receive both degrees concurrently. Furthermore:

a. The student may not be graduated until both the degrees are completed.
b. All requirements for the curriculum of each degree must be satisfied.
c. A course required in both degree programs does not have to be repeated for the second degree.

d. All university requirements such as minimum GPA and number of residency credits taken at IUP in the major must be met for each degree separately.
e. Should a student elect to discontinue the pursuit of receiving two baccalaureate degrees simultaneously and decide to apply for graduation with one degree, the student will be bound to the second baccalaureate degree requirements if a later return to IUP is desired to pursue another undergraduate degree.

Sophomore Screening for Junior Status Approval

General policy at IUP permits each college to determine its own scheme for evaluating the development and progress of its major students. However, each college is expected to employ some effective procedure for such evaluation.

Several of the colleges use a procedure called "Sophomore Screening for Junior Status Approval" with the following required: All students (in such a college) enrolled in their fourth semester or who will complete 57 credits attempted by the end of the current semester must apply for Junior Status approval by filling out an application form by the deadline date designated and announced.

All students should check with their faculty advisors to determine which colleges use the "Junior Status" screening procedure and the criteria for Junior Status Approval.

University Policy on Semester Course Syllabi

Each faculty member shall prepare and distribute, without charge, to each student within one week of the first meeting of the class a semester course syllabus. The syllabus will be consistent with course content and catalog description, which was approved by the Curriculum Committee of the University Senate for the initial course offering or revision. Semester syllabi may be distributed in hard copy or electronically.

The semester course syllabus is a vehicle of communication to promote student academic planning and to avoid misunderstandings of course plan and requirements.

It is recommended that each syllabus include:
a. the faculty member's name, office location, telephone number, and office hours
b. an outline of the course content, objectives, and prerequisites, as appropriate
c. information about the required textbook(s) with title, author, and edition, and any other required materials
d. information on the determination of grades, including the weight, types, and scheduling of evaluations, other planned requirements, and expectation for class participation
e. statement of policies and/or penalties for make-up exams and late submission of assignments

Undergraduate Course Attendance Policy

The university expects all students to attend class.

Individual faculty members may define attendance standards appropriate to each course and the consequences of not meeting those standards, within the following guidelines:
1 Each policy must be distributed in writing during the first week of the course. Normally, it is expected that the information dealing with class attendance standards will be distributed with the Semester Course Syllabus.
2 Each policy must recognize students' need to miss class because of illness or personal emergency.
3. Each policy must define some limited level of allowable absence, normally at least a number of clock hours equal to course credits.
4 Each policy must not penalize students who add the class during the regular or specified university drop-add period and must allow those students to make up work missed prior to adding the class.

Anticipated Class Absence for University Representation and Participation

The university community recognizes the values of student participation in cocurricular and extracurricular activities of the university. IUP has fostered this participation with an informal policy of good faith accommodation to meet overlapping demands of the curricular and extracurricular commitments.

The underlying spirit of good faith accommodation ultimately is set in the faculty member's unabridged right to determine the terms of variance, if any, from the established course syllabus–tests, quizzes, due dates for papers or other assignments, projects, presentations, and all other course operations.

In seeking variance, the student must take the initiative to make all arrangements including validation of participation as needed. The student should generally assume that papers and such assignments should be completed and submitted before the anticipated class absence. Alternate arrangements for tests, quizzes, labs, or class participation activity (panels, simulations, presentations) should be sought sufficiently in advance to permit faculty/student agreement on the plan for completion, whether the actual completion is rescheduled to be prior to or subsequent to the anticipated absence.

Inclement Weather Policy

Indiana University of Pennsylvania is committed to the safety and security of its students, faculty, staff, and visitors. Because of this commitment, the decision whether the university should close or remain open during periods of adverse weather conditions is based on the overall concern for the university community. In general, however, IUP's practice will be to remain open and to conduct classes and business as usual during periods of inclement weather.

Closure of the University: Should adverse weather conditions arise or be anticipated that would make it inadvisable to operate the university on a given day, the president may, at his discretion, close the institution (i.e., cancel all classes and on-campus activities at all campuses). In the event of either a full- or partial-day closure, notification will be provided to the following radio and television stations: WDAD Radio (Indiana), WCCS Radio (Homer City), WJAC-TV (Johnstown), KDKA-TV and KDKA Radio-1020 AM (Pittsburgh), and WTAE-TV and WTAE Radio-1250 AM (Pittsburgh).

Cancellation of IUP-Sponsored Activities or Events in the Absence of University Closure: Should adverse weather conditions arise or be anticipated that would make it inadvisable to conduct an IUP-sponsored activity or event on a date when the university otherwise remains open, the sponsoring unit/department has the option to cancel or postpone the function. The sponsoring unit/department also assumes responsibility for notifying event participants of the cancellation/postponement in an appropriate and timely manner.

Quality Points and Determining GPA

Grades and Quality Points

In the grading system, the following grades are used in reporting the standing of students at the end of each semester or session:

Grade	*Description*	*Quality Points*
A	**Excellent**	4 quality points/credit
B	**Good**	3 quality points/credit
C	**Average**	2 quality points/credit
D	**Passing**	1 quality point/credit
F	**Failing**	0 quality points/credit
P	**Passing**	0 quality points/credit (for credit courses only) (see policy explanation)
S	**Satisfactory**	0 quality points (for 0-credit courses only)
U	**Unsatisfactory**	0 quality points (for 0-credit courses only)

Other Designations (carrying no quality points):

AUD	**Audited Course**
EXM	**Examination**
FOL	**Portfolio Assessment**
I	**Incomplete**–For more information, see policy explanation.
L	**Late Grade/Continuing Course**–For more information, see policy explanation.
OL	**Other Location**
Q	**Total Semester Withdrawal**–Used prior to 2002 when a student had totally and officially withdrawn from the university for a given semester
R	**Research in progress** (graduate thesis/dissertation only)
TR	**Transfer**
XMT	**Exemption**
W	**Withdrawal**–For more information, see policy explanation.
*	**Grade not reported by instructor.** No grade information was reported by the end of the normal grading period

Grades followed by the designations below indicate the application of a policy which has amended the student's cumulative grade-point average.

.	**Institutional Credit** (credit counts toward enrollment status, but does not count toward graduation or in GPA calculation)
..	**Cancelled Semester** (see policy explanation)
*	**Fresh Start** (see policy explanation)

Determining GPA

Cumulative Grade Point Average (CGPA) is determined by multiplying the credits for a course by the quality points received for that course. Then, the total number of semester quality points for all courses is divided by the total number of credits attempted.

Academic Honors

IUP recognizes academic achievement through Dean's Lists, Provost's Scholars, and graduation honors.

Provost's Scholar

Provost's Scholars are recognized annually. At the start of the Fall semester, any undergraduate student who meets the following requirements is eligible to be named a Provost Scholar:

- A current junior with a minimum of 45 credits earned (completed, graded) at IUP
- A cumulative GPA of 3.50 or higher
- Must not have received this award previously (recognition is given only once)

Dean's List

Undergraduate students receive recognition on the Dean's List for each semester (or summer sessions cumulatively) in which they earn at least a 3.25 GPA based on at least 12 credits of graded (not P/F) coursework.

Graduation Honors

Traditional Latin honors are awarded at graduation to first bachelor's degree candidates with appropriate academic records. Calculation is based on all undergraduate credits and quality points earned at IUP. Graduation honors are not granted for second (subsequent) degrees. The distinctions are:

Cum laude–3.25 to 3.49 cumulative GPA
Magna cum laude–3.50 to 3.74 cumulative GPA
Summa cum laude–3.75 to 4.00 cumulative GPA

Beginning December, 1994, non-Latin honors are awarded to associate degree candidates. The distinctions are:

With Honor–3.25 to 3.49 cumulative GPA
With High Honor–3.50 to 3.74 cumulative GPA
With Highest Honor–3.75 to 4.00 cumulative GPA

Grading Policies

Shortly after each semester or session, a grade report will be available to each student at the University Records and Systems Assistant (URSA) at *www.iup.edu/ursa*.

Quality points are not counted on credits from other schools, and a student transferring from another school is held responsible for quality points only on work taken at this university.

Institutional credits are associated with remedial courses which are numbered below 100. Credits from institutional credit courses do not apply to degree requirements for graduation but are used in determining enrollment status (full- or part-time), including financial aid and athletic (NCAA) eligibility.

Midterm Grade Report Policy

To help undergraduate students monitor their academic performance, faculty members will provide a warning to students with unsatisfactory performance at midterm. Using the university's accepted grade reporting technology, faculty members will assign a midterm grade of "D" (danger or potential failure) or "F" (failure). Each semester the Registrar will establish and announce the dates for the window within which midterm grades may be posted by faculty members and read by students and advisors. The midterm grade is an advisory grade and is not a permanent part of a student's academic history. It will not be used to determine enrollment status, dismissal, or eligibility for financial aid, housing, or athletics.

Audit Policy

All audited courses will be identified as such on the student's grade report and transcript. Work taken on an audit basis will not be graded and will not count toward the fulfillment of requirements for a degree to be awarded by IUP. Since credits attempted and quality points will not be awarded for audited courses, they will not affect the student's grade-point average in any way. Auditors will pay normal tuition and such other fees as may be required for the course.

To audit an undergraduate course, a person must be admitted to the university and have met course prerequisites. Students wishing to audit a course for which they registered should obtain a Course Audit Form from the office of the department offering the course. Students must first register for the course before filing a course audit form. All audit processing, including revocation of previously requested audit classification, must be completed during the regular drop/add period. Copies of the completed form are returned to the Registrar's Office, to the department chairperson, and to the student. Audit students have the same privileges as other students in all coursework. There is no limit on the number of courses which may be audited.

Pass-Fail Policy

The purpose of pass-fail is to permit a student to take an elective course in a field of personal interest where he/she may be competing with major students in the department in which the course is offered. When scheduled, such a course shall be included in the student's normal course load for the semester.

A student may take courses on a pass-fail basis to a total of 15 credits throughout his/her university career. The student is limited to one pass-fail course in any given semester during the sophomore, junior, and senior years. All courses in the student's Liberal Studies program and courses required to meet major and minor requirements are excluded from this prerogative.

The student must declare his/her intent to choose pass-fail in a specific course no later than six weeks after the beginning of the semester or the equivalent timespan in a summer session. Once declared, this pass-fail option may not be revoked. Instructors will not be notified of the identity of pass-fail students in their courses. The grade given by the instructor will be translated to a "P" or "F" during grade processing.

A student shall be given academic credit without quality points for a course taken pass-fail upon receiving a passing mark in the course. The credits successfully completed under pass-fail ("passed"), within the overall 15-credit limitation, shall be recorded as counting towards the total credits

earned for graduation but not towards the credit-attempted data used in calculation of the cumulative grade-point average. However, if a student fails a pass-fail course, he/she will receive the "F" grade and the corresponding grade-point average. An "F" earned under the pass-fail option may be repeated only under the graded option to provide the quality points to correspond to the "hours attempted" incurred with the "F."

The summer sessions, collectively or in any combination, shall be considered a unit similar to a spring or fall semester for pass-fail purposes. Hence, a student is permitted to take only one course during the summer on a pass-fail basis.

Exceptions: Currently, there are two courses which are exceptions to the Pass-Fail Course Policy. EDUC 389 and NMDT 434 are only offered on a pass-fail basis.

I (Incomplete) Policy

The designation of I is used to record work which, so far as covered, is of passing grade but is incomplete because of personal illness or other unavoidable reasons. Changes of grade to convert designations of I must be received in the Office of the Registrar no later than the last day of regular classes preceding the final exam period in the next regular (fall/spring) semester after the I designation was assigned. The dean of the college in which the course is offered may approve an extension, provided the faculty member concurs. A faculty member assigning an I designation must complete a form indicating the work to be completed, deadlines for completion (it is not necessary to allow the maximum allowable time), and guidelines to establish the final grade. Copies of the completed form will be sent to the department chairperson, to the dean of the college in which the course is taught, and to the student receiving the I designation. To monitor I designations, the registrar shall submit to each faculty member routine semester reports of outstanding I designations.

L (Late Grade, Continuing Course) Policy

The designation of L (Late grade, continuing course) is appropriate for cases in which student work is expected to extend beyond a given semester/session. The designation of L is not to be confused with a designation of I, which is only appropriate for individual students unable to complete their coursework because of unexpected illness or personal emergency. L designations are appropriate for:

a. Internships, practicums, field experience courses, workshops, and independent studies that, by design, extend beyond the normal end of the grading period.
b. Others as approved by the department chairperson and the dean of the college in which the course is taught. If a specific course is always eligible for L designations, the dean may grant standing approval for L designations every time the course is offered.

Faculty wanting to use the L option for eligible courses must notify the registrar two weeks prior to the end of classes so that the grades can be pre-entered. L designations which are not preceded may be given only with the permission of the department chairperson and the dean of the college in which the designation is awarded.

Instructors will convert L designations to letter grades at the end of the course. Unless an extension is obtained from the dean of the college in which the course was taught, an L designation unresolved at the end of one year will be converted to an F.

To monitor L designations, the Registrar shall submit to each faculty member routine semester reports of all outstanding L designations awarded by that faculty member. The purpose of these reports is to help inform faculty as they help students complete their coursework.

Grade Change Policy

Once earned grades have been recorded, they may be changed only in the case of clerical and/or calculation error or in the event of a successful grade appeal. It is not appropriate to change a grade based upon options, such as supplemental assignments, that are not equally available to all students. The deadline for corrections of clerical and/or calculation errors is the end of the next regular (fall/spring) semester after the grade has been awarded.

Course Repeat Policy

A student may not normally repeat an academic course. Exceptions to this policy are:

1. **Repeatable courses:** Certain courses are eligible for repeat for credit and grade. These courses are advanced art studio courses, music ensembles, special topics courses (281, 481) if the topic is different, and other specifically designated courses.
2. **D and F grades:**
   a. Repeat with replacement: Undergraduate students are permitted to replace the grades and quality points for courses in which they receive a D or F grade by repeating that course at IUP and filing a repeat form with the Registrar's Office. Only six repeat-with-replacement attempts are permitted during a student's entire undergraduate career. In calculating GPA, the new grade and quality points earned will replace the old. However, the transcript continues to document all academic work, and repeated courses are not deleted from the visual record.
   b. Repeat with averaging: In addition to the six repeat-with-replacement options, undergraduate students may repeat other courses in which they receive a D or F grade. In these other repeat attempts, the new grade is averaged with, instead of replacing, the prior D or F grade; the credit for the D repeat counts only once. The transcript continues to indicate all repeated courses.
   c. Course transfers: Students seeking to replace or average D and F grades must repeat these courses at IUP. If an IUP course in which a student received an F is repeated at another institution, the credit will transfer to IUP, but the original F will continue to count toward the IUP GPA. If an IUP course in which a student received a D is repeated at another university, neither the grade nor the credit will transfer.
3. **Other grades:** Courses in which students earned a grade of A, B, C, or P may be repeated only on an audit basis. New grades will not be assigned and additional credit will not be awarded.

This policy also applies to transfer credit. Students receiving transfer credit for an IUP course may not repeat that course at IUP. Similarly, students who have already earned a passing grade in an IUP course may not subsequently receive transfer credit for that same course.

Cancelled Semester Policy

The Cancelled Semester Policy provides for cancellation from the cumulative record of the effects of **one semester below a GPA of 2.00** for the purpose of helping a student improve academic standing. The student must have been separated from the university for four consecutive semesters and the intervening summer sessions.

Semester to be cancelled refers to any semester of enrollment, whether full- or part-time. Students may elect to use an enrolled summer as their "semester" to be cancelled. The entire summer of any given year will be treated as a semester for the purpose of cancellation of grades. *Cancellation* removes the mathematic effect of all grades (passing, failing, withdrawals) from the semester, but there is no abridgement of the transcript. All courses and original grades remain visible on the official transcript; credit toward graduation remains for those credits associated with passing grades.

A student readmitted under this policy must meet current degree requirements and will be reviewed under current academic standards requirements applicable at the time of readmission.

This policy may be invoked only once in a student's undergraduate enrollment in the university. While readmission may be based on the application of the cancelled semester, the transcript record will reflect this only after the student is enrolled and attending IUP. It is not a tool to qualify for transfer to another institution.

The student must apply to the college of which he/she was a member at the time of last enrollment. If a student wishes to enter a major in a college other than the one from which he/she was separated, he/she will apply to the original college, which will forward the application and related records to the new college for action. The college will inform the Office of the Registrar if the application is approved. Authorization for registration will come from that office.

Fresh Start Policy

A student who has been academically dismissed and separated from the university for a minimum of five consecutive calendar years may apply for readmission. Having reviewed the prior and intervening factors for evidence of potential for improved academic success, the college dean or designee may readmit the student. This policy applies to a student's first baccalaureate degree, and a student may be readmitted under this policy only once. A minimum of 30 credits must be completed at IUP after a student returns to IUP under this policy.

A student who wishes to enter a major in a college other than the one from which he/she was dismissed will apply to the original college, which will forward the application and related records to the new college for action

Conditions for a Fresh Start Record: All credits and grades for IUP coursework taken prior to readmission under this policy shall remain on the transcript. Upon readmission, a new cumulative (GPA) is established based upon credits and grades earned from the date of readmission.

Prior Record: Previously accepted transfer credits and IUP courses in which grades of C or better were earned prior to readmission will be reviewed in terms of appropriateness (applicability, timeliness) to the new degree. Those courses, approved by the college dean or designee, will be counted as credits earned and applied toward graduation in the manner of transfer credits.

Academic Standards: A student who is readmitted under the provisions of this policy shall be required to meet current degree requirements. He/she shall be academically reviewed under the policies published in the academic catalog at the time of rematriculation. A student readmitted under this policy waives the right to exercise the cancelled semester policy.

Withdrawal Policies

Individual Course Withdrawal Policy

The Individual Course Withdrawal Policy provides students who are unable to complete a course with the option of withdrawing from that course. This option should be taken only after other options have been discussed with the instructor and/or the student's advisor.

During the Fall and Spring semesters, Individual Course Withdrawals may be processed using the computer registration system between the day after the conclusion of the drop/add period and the end of the first two-thirds of the academic term. During summer parts of term, the deadline is the two-thirds point of each summer course for which the student is registered. After the two-thirds point of each semester or part of summer term, students may no longer process Individual Course Withdrawals.

A student needing to withdraw from a course after the deadline must process a request for deadline waiver through the office of the dean of his or her college. Approval of the waiver is contingent upon documentation of catastrophic circumstances preventing the student from completing the semester. If a waiver is approved, the college office will arrange for recording the "W" designation.

Since instructors inform students of their standing in class prior to the two-thirds point of the semester (Midterm Grade Report Policy), students will be able to discuss course withdrawals with instructors and/or academic advisors to assess alternatives. Students, advisors, and instructors should also understand the significant impact of course withdrawal on financial aid eligibility (percent of completion and eligibility to move to the next class level), athletic eligibility, and health insurance which requires full-time status. Students are also cautioned to consider the detrimental impact of Ws in a transcript review by a prospective employer or graduate school.

Total University Withdrawal Policy

The Total University Withdrawal policy provides students who are unable to complete a semester with the option of withdrawing from all classes, and thus from the university, for that semester. During the fall and spring semesters, Total University Withdrawals may be processed between the first day of classes and the end of the eleventh week of the semester. During summer parts of term, the deadline is the two-thirds point of each summer course for which the student is registered.

***Late Withdrawal*:** Any undergraduate student who needs to withdraw from the university after the deadline must process a waiver through the office of the dean of his or her college. Approval of the waiver is contingent upon documentation of catastrophic circumstances preventing the student from completing the semester. Approved waivers must be submitted to the Advising and Testing Center and attached to the Total University Withdrawal form for processing as below.

***Involuntary Withdrawal*:** Any undergraduate student involuntarily withdrawing from the university as a result of suspension or expulsion unrelated to violations of the Academic Integrity Policy will automatically have the designation of "W" assigned to each registered course as a result of such judicial action.

Process: Undergraduate students voluntarily withdrawing from the university during the fall, spring, or summer semesters must process a Total University Withdrawal Form with the Advising and Testing Center, Pratt Hall, 724-357-4067. Once the Total University Withdrawal has been processed, a withdraw designation ("W") will be assigned to all registered courses in the semester from which the student is withdrawing.

Readmission: Requests for readmission for academically dismissed students or first-semester and transfer students who withdraw from the university voluntarily during their first semester of full-time enrollment will be forwarded to the Office of the Dean of the college in which the student was enrolled at the time of dismissal or total university withdrawal for a decision on the student's readmission.

Students should refer to the Readmission Policy for Students Who Withdraw from the University Voluntarily in the Admissions section of this catalog for further information about returning to IUP after processing a Total University Withdrawal. Applications for Readmission are available in the Registrar's Office, Clark Hall, 724-357-2217.

Withdrawal from IUP and Its Impact on Student Financial Aid

Students taking a total university withdrawal from all of their courses at IUP may find their financial aid for that particular semester affected. The 1998 Reauthorization of the Higher Education Act requires educational institutions to calculate a Return of Federal Student Aid Funds (Title IV aid) for students who withdraw from all classes on or before the 60 percent attendance point in the semester. A pro-rata schedule is used to determine the percentage of the semester attended; that percentage determines the amount of federal funds earned. The Office of the Bursar applies the federal guidelines and returns the unearned portion to the federal programs in the following order:

1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal Perkins Loan
4. Federal PLUS Loan
5. Federal Pell Grant
6. Federal Supplemental Educational Opportunity Grant

Example: If a student withdrew on the 32nd calendar day of a semester which encompassed 106 calendar days (not including breaks of five or more

days), the student would have attended 30 percent of the semester. Therefore, the student would have earned 30 percent of his federal aid.

In addition to impacting current eligibility, a total withdrawal can affect future eligibility for financial aid. Please refer to the section regarding satisfactory academic progress.

IUP Policy for Enrolled Students Called to Active Military Service

IUP provides two options for students who are currently enrolled but called to active military duty before the end of the semester:

Option 1
The student may choose to do a total semester withdrawal from all his/her classes, and under a Pennsylvania State System of Higher Education policy, receive a full refund for tuition and fees; any university room and dining hall contract fees would be refunded on a prorated basis for the actual services the student has received up to the date of the withdrawal. This option requires that the student withdraw from every course and receive no grade for any course taken in that semester.

To process a total semester withdrawal, undergraduate students must contact the Advising and Testing Center, 106 Pratt Hall, 724-357-4067, (*www.iup.edu/advisingtesting* or e-mail at *advising-testing@iup.edu*) to complete the necessary paperwork to assign the course withdrawal designations and to start the process for refunds; graduate students must notify the School of Graduate Studies and Research, 101 Stright Hall, 724-357-2222 (*www.iup.edu/graduate*).

Any student who has elected to use this option shall be granted readmission for the next semester in which the student wishes to return to IUP. The student's academic standing at the time of readmission shall remain as it was prior to the call to active military duty.

For federal student aid recipients, the return of Title IV student aid will be applicable.

Option 2
If a substantial part of the semester has been completed by the time the student is called for active military duty, the student may meet with each instructor to determine an appropriate grade. Since assignment of grades is the responsibility of the instructor, he/she may assign whatever grade is appropriate. If the appropriate grade is an "incomplete," IUP will extend the deadline by which the incomplete must be removed to *180 days from the time the student returns from active duty*. Any university room and dining hall contract fees would be refunded on a prorated basis for the actual services the student has received up to the date of leaving the university for active duty.

Undergraduate students must contact the Advising and Testing Center to complete the necessary paperwork to start the process for refunds; graduate students must notify the School of Graduate Studies and Research.

Any student who has elected to use Option 2 who wishes to return to IUP must contact the Registrar's Office to have his/her status reactivated.

Questions may be addressed to the Registrar's Office, 300 Clark Hall, 724-357-2217 (*www.iup.edu/registrar*).

Academic Standards Policy

A. **Purpose:** The university establishes minimum standards for cumulative grade point average (CGPA) to encourage academic accomplishment and timely progress toward graduation.

This policy applies to all undergraduate students. Designated subpopulations are subject to modifications listed in Section F.

B. **Definitions**

1. *Academic Good Standing*: Students maintaining a CGPA of at least 2.00 are in Academic Good Standing.
2. *Probation*: Students whose CGPA falls below the 2.00 standard are on probation during the next fall, spring, or summer semester for which they are registered.
3. *Extended Probation*: Students who have been authorized to continue, even though they have not achieved a 2.00 CGPA after one semester of probation, are on extended probation.
4. *Academic Recovery Plan*: Students whose CGPA falls below the 2.00 standard must develop an Academic Recovery Plan for achieving academic good standing.

C. **Administrative Review and Enforcement of Standards**

1. Each college, branch campus, and the Learning Enhancement Center will designate an Academic Standards Officer who will be responsible for academic review and enforcement of standards.
2. An academic review is conducted at the end of each fall, spring, and summer semester.
   a. Students earning a 0.00 CGPA at the end of their first semester of full-time enrollment will be dismissed from the university.
   b. Other students falling below the 2.00 CGPA standard will be continued on probation for one semester and be required to develop and implement an Academic Recovery Plan.
   c. Students still below the 2.00 cumulative GPA standard after a semester of probation are subject to dismissal. The Academic Standards Officer may grant one semester of extended probation to those who (1) made progress toward academic good standing while on probation or followed their approved Academic Recovery Plan, and (2) have a reasonable mathematical chance of reaching a 2.00 CGPA after one additional semester. Other probation students will be dismissed.
   d. Students still below the 2.00 CGPA standard after a semester of extended probation will be dismissed.
   e. Students who regain academic good standing but again fall below the 2.00 standard in a subsequent semester are awarded another semester of probation and, where appropriate, extended probation.

D. **Academic Recovery Plan:** Students not meeting the 2.00 CGPA standard must design and implement a comprehensive plan leading to academic good standing. The plan must be developed with and approved by the appropriate Academic Standards Officer.

1. **Analysis:** Students must identify the factors causing their unsatisfactory achievement.
2. **Planning:** Plans must include a schedule of minimum grades needed to achieve academic good standing.
3. **Commitment:** Students must commit to the changes in behavior necessary to achieve academic success. This might include changes in time management, career exploration, and the use of such support services as academic advisors, tutoring, the Writing Center, the Counseling Center, the Learning Enhancement Center, workshops on study skills and related activities, and any other opportunities deemed important by the Academic Standards Officer.
4. **Documentation:** Each plan must include a satisfactory method of documentation. Records of attendance at classes and support services, journaling of activities supporting academic success, and conferences are potential vehicles to be considered.

E. **Dismissal and Readmission**

1. Students dismissed under this policy may not be readmitted for at least one calendar year.
2. Dismissed students are not eligible for enrollment in any session (including summer sessions) for at least one calendar year. After one calendar year dismissed students may enroll in summer courses, but they are cautioned against enrolling without consulting their Academic Standards Officer.
3. Dismissed students may, after one calendar year, apply for readmission through the Office of the Registrar.

a. Those students who, in the opinion of the appropriate Academic Standards Officer, are likely to achieve academic success may be readmitted.
b. Decisions for readmission are the responsibility of the Academic Standards Officer of the college the student wishes to enter. If the student seeks admission to a new college, the Academic Standards Officer of the admitting college must consult with the Academic Standards Officer of the college which dismissed the student. Dismissed students seeking admission to a new major must include an application for a change of major.

4. Students may be readmitted only once under this policy. Subsequent readmission may be available under the Cancelled Semester Policy after two or more years of separation or the Fresh Start Policy after five or more years of separation.

E. **Special Populations**

1. **Learning Enhancement Center/Act 101 Program:** Students admitted through the Learning Enhancement Center remain under the direction of the Learning Enhancement Center until reaching the 2.00 CGPA standard. Students dismissed after earning a 0.00 CGPA in their initial Learning Enhancement Center/Act 101 program may apply for readmission only to the next Learning Enhancement Center/Act 101 program.
2. **Branch Campuses:** Students admitted through a branch campus must remain at that branch until reaching the 2.00 CGPA standard.
3. **Part-time Students:** Continuing Education and Others
This policy will be applied on a pro-rata basis for part-time students. Students are considered to be part-time if, at the close of the drop-add period of the given semester, they are enrolled in fewer than 12 credits of classes.

IUP Student Grade Appeal Policy

Grade Review Policy

If a student disagrees with the evaluation of his/her work by the instructor but has no basis for a charge of "discrimination" or "capricious evaluation" or "error," the student should discuss the matter directly with the instructor, and if unsatisfied, with the chairperson of the department in which the course was offered, and if still unsatisfied, with the dean of the college in which the course was offered. In such cases, the decision of the instructor shall be final.

If a student believes that an improper grade has been assigned, an appeal may be filed on the following grounds:

1. **Discrimination:** On the basis of race, religion, national origin, sex, age, ancestry, handicapped status, gender identity, sexual orientation, or political affiliation.
2. **Capricious Evaluation:** Significant and unwarranted deviation from grading procedures and course outlines set at the beginning of the course (ordinarily in a written statement during the first week of the course) or grade assigned arbitrarily on the basis of whim or impulse. The student may not claim capriciousness if he or she disagrees with the subjective professional evaluation of the instructor.
3. **Error:** Demonstrable, objective determination that a mathematical or clerical error resulted in the entry of an incorrect grade.

Procedures of Appeal

Level I: Informal Resolution

Every effort should be made to resolve the disagreement at Level I. The student must first seek a resolution to the disagreement with the instructor either in person or in writing. If the student is not satisfied with the results, the student must then speak with the chairperson of the department that offers the course. If still unsatisfied, the student must discuss the matter with the dean of the college in which the course is offered. A Student Congress member may accompany and advise the student during the Level I procedures. Only after all attempts for resolution at Level I have been exhausted may the student initiate Level II.

Level II: Appeal Screening

A. **Composition:** Each year there shall be appointed a Grade Appeals Committee to determine the existence of the substantive basis for appeal. The committee will be composed of seven voting members: three faculty members appointed by APSCUF, three members elected by and from the Senate Academic Committee (one faculty, one administrator, one student), and one student appointed by the Student Congress. A quorum consists of a majority of the committee. To take action, a majority of those present must be faculty members. If a quorum of the Level II committee is not available to meet within the designated time limits, the Provost's Office will seek additional members from the appointing bodies. If these bodies are unable to respond in a timely manner, the Provost's Office may select additional members from the appropriate groups.

B **Procedure to Initiate Appeal:** To initiate Level II of the appeal, the student must file an appeal form with the Provost's Office. This form must be filed within sixty (60) calendar days of the beginning of the semester immediately following the semester in which the grade was received. The Provost's Office may extend the sixty-day limit only in unusual circumstances when equity demands it and when the student's own procrastination or misunderstanding did not substantially contribute to the delay. (Note: Grade appeals will not generally be processed during the summer. Therefore, the appeal of any grade received in the spring or summer sessions normally will be processed in the fall. A review will be scheduled in the summer only when the student's academic eligibility is jeopardized by the grade in question or when the student is a graduating senior.) The Provost's Office will notify the appropriate dean, department chairperson, faculty member, APSCUF president, and the Student Congress president of the student's initiation of the Level II process.

C. **Procedure to Process Appeal:** The student will be expected to submit written documentation of his/her complaint, and the faculty member will be expected to submit in writing the course grading procedure and any other pertinent information. Appeals based on discrimination will be reviewed according to current standards of nondiscriminatory action. Appeals based on capriciousness will be reviewed in light of the faculty member's announced evaluation and grading system. The committee will review the materials to deny or confirm appeal continuance. Denial of appeal continuance must be by a negative vote of four members of the committee. This committee will inform the Provost's Office of its findings. Within five (5) class days of the receipt of the committee's report, the provost or designee will notify the student and the faculty member of the findings. If the basis for appeal is determined to be substantive, the provost or designee will schedule a Grade Review Panel within fifteen (15) class days to be convened prior to the conclusion of the semester.

Level III: Appeal Review

A. **Composition:** The Grade Review Panel will consist of five voting members: one academic dean or associate dean and four faculty members. The Student Congress Executive Committee designee may advise as requested by the student. The affirmative action officer will advise in appeals based on discrimination. The panel will be constituted from the Grade Review Pool by random selection. The panel chairperson will be elected by and from the panel before each review.

B. **Membership:** The Grade Review Pool will be established in the spring term to serve for the following academic year. Using random selection methods, the pool and rotational order within the pool will be established by the Provost's Office. A pool of three deans or associate deans and twelve full-time faculty members will be maintained. In establishing the membership for each review panel, prior to each review the names of those designated as primary members of the specific panel and available as alternates will be supplied to all parties involved. A panel member may request (to the provost or designee) disqualification due to a conflict of interest. The student and the faculty member may eliminate names in proportion to the composition of the panel.

Each may eliminate only one dean/associate dean and four faculty. The instructor and the student will be supplied a list of all primary and secondary pool members. The opportunity to disqualify panel members will take place only once. Resulting vacancies will be filled from the appropriate pool of alternates so that the panel will be composed of one dean/associate dean and four faculty. If through self-disqualification and challenges a panel cannot be constituted from the pool, then the Provost's Office will supplement the pool using appropriate random selection methods.

C. **Procedure:**
   1. Both the student and the instructor will have the right to appear before the panel, present witnesses, and offer evidence. In addition to those specified in Level III, Section A, each may also bring one observer, with whom he or she may consult but who may not participate in the review.
   2. The panel shall determine its rules of order for internal operation. After hearing the evidence brought forth, the panel will privately deliberate and render a decision. If the grade appeal is upheld, the panel will constitute a committee of three appropriate faculty members (knowledgeable in the discipline but excluding the faculty member against whom the complaint was lodged), who will review the student's work and recommend the appropriate grade or suitable remedy. The panel will incorporate this information in its determination, which it then forwards to the Provost's Office for implementation, ordinarily within thirty days. The Provost's Office will initiate the processing of grade changes resulting from Level III decisions. The Provost's Office will notify the student of grade changes resulting from Level III decisions.
   3. The written report sent to the Provost's Office will state whether the student's appeal is upheld or denied; if upheld, the committee's evaluation and remedy will be included. Both the student and the faculty member have the right to review all documents related to the appeal. All documents supporting the report will be sealed and kept for one year to ensure the appropriate action is taken before they are destroyed or returned to the individual presenting the evidence.

Ancillary Provisions

A. **Continuing Rights:** This appeal does not supplant any legal rights afforded by the Commonwealth of Pennsylvania and/or the Government of the United States. Nothing in this policy abrogates or modifies any provisions of or rights under the Collective Bargaining Agreement.

B. **Discrimination in this policy generally means unlawful discrimination.** To the extent that any form of discrimination identified in this definition is not unlawful discrimination, this definition shall not be taken to create a cause of appeal against the university. In such cases, the final appeal procedures stated in this policy will be final and binding on the student.

C. **Tenure and Promotion Committee Membership on Grade Appeals Committees:** Members of the universitywide tenure and promotion committees may not serve concurrently on grade appeals committees.

D. **Support Mechanism:** The Provost's Office, after consultation with the Senate Academic Committee and APSCUF, will be responsible for identifying a pool of at least ten faculty members well versed in the preparation of grade appeals who will be available upon request to help students or faculty prepare documentation for the grade appeals process.

E. **Training/Support:** The Provost's Office will offer yearly information sessions/workshops to assist deans, chairs, grade appeals panel/committee members, and members of Student Congress/university in identifying issues and to provide guidance for the resolution of grade appeals.

F. **Dissemination of Grade Appeal Information:** The Provost's Office will annually report to the university community a statistical summary of grade appeal data that does not compromise confidentiality including (1) the number of appeals filed, (2) the resolutions at levels II and III, and 3) the final implementation of Level III decisions.

G. **Appeals on Procedural Grounds:** Decisions may not be challenged merely because the Provost's Office fails to comply with Ancillary Provisions D, E, or F above

H. **Intentional Misrepresentation:** Intentional misrepresentation in the filing of grade appeals by students will be referred to the university judicial system for students. Intentional misrepresentation by faculty in the grade appeals process will be referred to the Provost's Office.

I **Confidentiality:** Students, faculty, administrators, and staff involved in processing and hearing grade appeals must respect the confidentiality of all aspects of these proceedings. Those breaching confidentiality subject themselves to possible disciplinary action. This shall not abridge the First Amendment rights of the student appellant nor the instructor against whom the appeal has been filed.

J. **Intended Purpose:** The grade appeal procedures are designed simply as a means to resolve differences between students and faculty related to grading. Unless there is intentional misrepresentation, the results of a grade appeal may not be used for disciplinary action of personnel.

K **Faculty Compensation:** If a Review Panel (hearing) is scheduled at a time in the summer when any faculty member involved is not under contract, the faculty member will be compensated under terms mutually agreed upon at Meet-and-Discuss.

L. **Review of Policy:** Every five years the Senate Academic Committee will review, in consultation with the campus community, the operation of the Grade Appeals Policy and recommend changes deemed appropriate.

M *** Amendment:** Amendments may be implemented upon concurrence by University Senate, APSCUF Representative Council, and Meet-and-Discuss.

***Note:** In the amendment process above, specification of University Senate implies the Council of Trustees' role in approving Senate actions and recognizes the Council of Trustees' final action to change policy.

Academic Integrity Policy and Procedures

IUP is an academic community within the society at large. All members within this community are expected to accept the responsibility for academic integrity and honesty. Academic dishonesty seriously erodes the quality of educational pursuits and is unacceptable at IUP. The following policies and procedures have been established to preserve the academic integrity of the university community, while also providing a process that protects the rights of students who allegedly violate these policies.

Policy

A. **Types of Violations.** Violations of academic integrity include, but are not limited to, the following:
   1. Providing or receiving unauthorized assistance in coursework, with lab work, theses, dissertations, or during examinations (including qualifying and comprehensive exams) or quizzes.
   2. Using unauthorized materials or devices, such as crib notes, during examinations or quizzes.
   3. Plagiarizing papers, theses, dissertations, essays, reports, speeches and oral presentations, take-home examinations, computer projects, or other academic exercises by misrepresenting or passing off the ideas, words, formulas, or data of another as one's own. Plagiarism is dishonest and illegal. Writers are indebted to authors from whom they borrow exact words, ideas, theories, opinions, statistics, illustrative material, or facts (beyond common knowledge). Writers are also indebted *if they summarize or paraphrase in their own words* material from sources. All quoted material requires the acknowledgement of the source by the use of quotation marks or indentation (if exact wording is incorporated). In addition, both directly quoted and summarized material must be acknowledged by use of a note or parenthetical citation that indicates the author and/or date of publication and page number or numbers. If the writer indents a quotation, it must be clearly set off from the body of the text and must be documented

in the aforesaid manner. To verify the various documentation procedures, writers should consult the style sheet in the particular discipline for which they are preparing the assignment (MLA, APA, Chicago, BC, etc.).

4. Using the same paper or work more than once without authorization of the faculty member(s) to whom the work is being submitted.
5. Possessing course examination materials before the administration of the exam, without the prior knowledge or consent of the instructor.
6. Intentionally evading IUP academic policies and procedures; for example, improperly processing course withdrawals, grade changes, or other academic procedures.
7. Falsifying information, including falsification/fabrication of research data and/or statistical analyses, forging signatures on various forms and documents, or altering or adding answers on academic exercises or exams after work has been graded.
8. Computer dishonesty, including: tampering with or making unauthorized change to another person's or the university's computer system, illegally copying computer software, personal use of another individual's computer account, unauthorized activity involving another individual's personal computer system or any system belonging to the university, and other unauthorized use or violations involving computer use.
9. Noncompliance: failure to follow through with sanction(s) imposed as a result of an academic violation.

The university reserves the right to discipline any student for any action that an ordinary, reasonable, intelligent college student knows or should know might lead to the issuance of discipline. This means the university maintains the right to issue discipline for reasonable cause.

Charges of academic integrity violations may be brought by faculty members or administrators. Students who observe or become aware of a violation of academic integrity by another student are strongly encouraged to report it to a university official. A faculty member/administrator who believes that a student has violated an academic policy may elect to resolve the matter by Informal Resolution, by Documented Agreement, or by Formal Adjudication. *Sanction(s) may not be imposed upon a student believed to have violated an academic policy without following one of these three procedures.*

If charges are brought, the accused student(s) shall have a fair and reasonable opportunity to answer, explain, and defend against the charges. The university shall have the burden of proof in all cases. Hearsay should not be used as the sole evidence to establish any fact necessary to establish guilt or innocence.

Procedures

A. Faculty/administrators must use one of the following options to resolve alleged violations of academic integrity.
   1. **Option I: Informal Resolution.** The faculty member/administrator and student may meet informally, normally within seven class days of the observation or discovery of the incident, and agree to resolve the issue without submitting any formal documentation. If the violation pertains to work being judged by a committee (examples might include dissertations and comprehensive examinations, both oral and written), the meeting must involve a majority of the committee and the resolution must be agreed to by a majority of the committee. It is in the interest of both the faculty member/administrator and student to complete a statement that summarizes the incident, conference, and agreed-upon resolution. This factual statement should be signed by both parties and copies provided to the student and the faculty member/administrator. If agreement cannot be reached, or at the discretion of the faculty member/administrator, a more formal process as outlined in this policy may be initiated.
   2. **Option II: Resolution by Documented Agreement**
      a. The faculty member/administrator may schedule a conference with the student in an attempt to agree on the facts of the case and to reach a mutually agreeable resolution. This meeting must normally be scheduled/requested within seven class days of the observation or discovery of the alleged violation or of the failure of resolution by Option I. If an agreement is reached, the faculty member/administrator must complete a Documented Agreement Form outlining the agreement and have it signed by both parties: faculty member/administrator and student. If the violation pertains to work such as a thesis or comprehensive examination being judged by a committee, the meeting must involve a majority of the committee and the Documented Agreement Form must be agreed to and signed by a majority of the committee. Copies are distributed to the student, the faculty member(s)/administrator filing the agreement, and the department chair, who must also electronically record the information for subsequent entry into the computer database. The form must normally be filed within seven class days of the conference.
      b. If an agreement is reached and the form is filed, the matter is closed unless the student has a prior academic violation(s) on record. By signing off on the agreement, the student waives the right to appeal the sanctions agreed upon in the conference. If the student fails to fulfill the written agreement, the faculty member/administrator may file an academic integrity referral against the student for noncompliance.
      c. If a prior academic integrity violation(s) for the student is on record, the matter will be referred to an Academic Integrity Board (AIB). The AIB will review the case to determine if more severe sanctions are warranted (see Section D, Multiple Violations).
      d. If a documented agreement is not reached, the faculty member/administrator should initiate the formal adjudication process by filing an academic integrity referral form with the department chair, normally within seven class days of the conference with the student.
   3. **Option III: Resolution by Formal Adjudication.** A faculty member/administrator should pursue formal adjudication if:
      *he/she cannot reach or chooses not to attempt a mutually agreeable resolution with the student regarding the facts of the case or sanctions to be imposed,
      *he/she believes that the violation is so severe that it warrants a sanction of expulsion, suspension, involuntary withdrawal from part of IUP's academic or other programs, or awarding a failing grade on a project or examination (such as a graduate qualifying or comprehensive examination or dissertation) when resubmitting the project or retaking the examination is not possible.
      a. The faculty member/administrator should file an academic integrity referral form with the department chair, normally within seven class days of the observation or discovery of the violation or within seven class days of the failure to reach a resolution through Option I or Option II. If the violation pertains to work being judged by a committee, the form must be signed by a majority of the committee. The form will contain a description of the alleged violation, including the time, date, and place of occurrence, and the recommended sanction(s) if the student is found to have violated this policy.
      b. The department chair will forward a copy of the academic integrity referral to the student, normally within seven class days of receiving notification of the allegation, and contact the student to schedule a hearing to review the facts surrounding the allegation and recommended sanctions if the student is determined to have committed a violation.
      c. The hearing should be scheduled so as to allow the student a reasonable time to prepare a defense (normally within seven class days of being notified of the allegation by the department chair).
      d. This hearing will involve the student, the department chair, and the faculty member/administrator(s); the department chair may invite others with pertinent information. All parties must be given the opportunity to submit written,

physical, and testimonial evidence, and for reasonable questioning of witnesses.

e. The accused student may identify an advisor, who may be an attorney, to be present at the hearing. The advisor may only consult privately with the student unless otherwise determined by the university regarding a particular case.

f. The student may waive his/her right to a hearing in writing. If so, the sanction recommended by the person filing the referral will be imposed. If the student fails to appear when a hearing has been scheduled, the hearing will be held in the student's absence and the department chair will render a decision based upon factual information presented by the faculty member/administrator.

g. Following the hearing, the department chair will render a determination based on the information presented at the hearing. Normally within seven class days of the hearing, the department chair will forward a written report summarizing the hearing that includes the outcome, the factual basis for the determinations reached, the sanction(s) to be issued, and appeal procedures. Copies of this report will be sent to the student, the faculty member/administrator, and the provost/designee. The department chair will retain a copy for departmental files and electronically record the information for subsequent entry into the computer database.

h. In the event that a department chair cannot or will not fulfill the above role, or in the event that the person filing the referral is an administrator or department chair, the provost or designee will determine the appropriate individual to fulfill the department chair's role and inform the student and the faculty member/administrator filing charges.

i. If a prior academic violation(s) for the student is on record, the case must be referred to the Academic Integrity Board which will consider more severe sanctions (see Section D, Multiple Violations). Otherwise, if there is no appeal, the recommended sanction will be imposed.

B. **Academic Integrity Board (AIB).** The AIB will hear all cases in which appeals to the chair's decision are accepted by the provost/designee (see Appeals section C.1. and C.2.). The AIB will also review sanctions in cases of multiple violations (see Section D).

1. The AIB will be made up of four faculty members, one of whom will chair the board, and two students. A quorum requires the presence of four persons, at least one of whom must be a student. All members, including the chair, are voting members.
2. When an AIB hearing is called for, the AIB will be convened by the provost/designee (currently the assistant to the vice president for Student Affairs). The accused student shall be notified of the time, date, and place of the hearing and the names of those AIB members scheduled to review his/her case. If the hearing is an appeal, this notification will also include details of the charges, including the time, date, and place of the alleged offense(s) and the recommended sanction(s). If the hearing is a review of sanctions in a multiple violation case (see Section D), the notification should also indicate that more severe sanctions might be imposed. The hearing should be scheduled so as to allow the student reasonable time to prepare a defense.
3. Prior to the hearing a student appearing before an AIB may, with good cause, challenge any member on the board sitting in judgment of his/her particular case. When such a challenge is made, an alternate member will be appointed to the AIB.
4. The AIB will review all material and hear all evidence pertinent to the case from the accused and all witnesses. Members of the AIB shall be free to ask relevant questions to clarify information or resulting issues.
5. The student shall have a fair and reasonable opportunity to answer, explain, and defend against information and witnesses presented at the hearing, to submit written, physical, and testimonial evidence, and to call relevant witnesses on his/her behalf.
6. The accused student may identify an advisor, who may be an attorney, to be present at the hearing. The advisor may only consult privately with the student unless otherwise determined by the university regarding a particular case.
7. After hearing all evidence, the AIB will privately make its decision based reasonably upon the evidence presented. A majority vote of the AIB shall be required for any decision. If the AIB finds the student to have committed the misconduct or infraction, and the student has no prior academic violation(s) on record, it may accept, reduce (but not increase), or modify the recommended sanction. If the student does have a prior academic violation(s) on record, the AIB may increase the recommended sanction (see Section D, Multiple Violations).
8. If the student waives his/her right to a hearing in writing, or chooses not to appear at the AIB hearing, the case will be adjudicated based upon the evidence presented at the scheduled hearing.
9. All hearings are closed unless the student requests an open hearing in writing. The AIB chair has the authority to make the final decision regarding access of spectators at the hearing.
10. The AIB must submit a written report of the decision, normally within seven class days of its decision, to the student, faculty member/administrator, department chair, and provost/designee, who will electronically record the information for subsequent entry into the computer database.

C. **Appeals.** These appeal procedures apply to cases resolved through formal adjudication. Cases of academic integrity that are resolved through informal resolution or documented agreement cannot be appealed, as the facts of the case, the decision, and sanction(s) have been agreed to by the student and the individual making the charge.

1. If, after receiving the department chair's report on the outcome of the hearing, the faculty/administrator or the student disagrees with either the decision, the sanction, or both, he/she may appeal to the provost/designee, normally within seven class days of receiving the report. This appeal must be in writing and must describe in detail the grounds for the appeal. These reasons may include the following:
   a. Denial of a fair and reasonable hearing
   b. New evidence (applies when there is an acceptable reason why the information was not presented at the original hearing)
   c. Excessively harsh sanctions. Students cannot appeal on the basis of excessively harsh sanctions if the sanctions are specified on the course syllabus, have the prior approval of the department, and apply only to the specific course in which the alleged violation occurred.
2. The provost/designee may deny the appeal or direct the appeal to be heard by an AIB within seven class days. All appeals involving sanctions of involuntary withdrawal from part of IUP's academic or other programs, suspension, or expulsion will be heard by an AIB.
3. Unless the recommended sanction is suspension or expulsion, the decision of the AIB is final and will be implemented by the provost/designee, who will electronically record the information for subsequent entry into the computer database.
4. Suspension or expulsion may be recommended by the AIB but can only be implemented by the vice president for Student Affairs (the president's designee for suspension and expulsion), who is responsible for verifying that due process was followed.

D. **Multiple Violations**

1. Students with multiple academic violations of record will be subject to additional sanctions, including possible suspension or expulsion from the university.
2. Information about prior violations is not relevant to determining whether a student has violated this policy. However, such information is pertinent in determining the appropriate sanction.
3. If a student found in violation of this policy through either Resolution by Documented Agreement or Resolution by Formal

Adjudication has a prior academic integrity violation of record, the case will be referred to an AIB.

4. For cases previously resolved by Documented Agreement or through Formal Adjudication at the department chair's level, the AIB will schedule a new hearing. This hearing will review all information pertinent to the determination of an appropriate sanction but will not reconsider the issue of whether the policy violation occurred. After considering the severity of the current and prior violations, the AIB may determine that a more severe sanction is appropriate.
5. For cases being heard by an AIB, the AIB should request information on prior violations only after determining that a violation has occurred. Information on prior violations should be used in determining the appropriate sanction.
6. The AIB must submit a written report of the decision, normally within seven class days of its decision, to the student, faculty/administrator, department chair, and provost/designee, who will electronically record the information for subsequent entry into the computer database.
7. The student may appeal any new sanction(s) to the provost/designee. The provost/designee may deny the appeal or, on the basis of denial of a fair and reasonable hearing, new evidence, or excessively harsh sanctions, direct the appeal to be heard by a second AIB. The provost/designee will electronically record the information for subsequent entry into the computer database.

E. **Sanctions**

1. The following sanctions may be agreed upon by the student and faculty member/administrator through informal resolution or documented agreement. All grade reductions require the approval of the instructor of record. If the work is graded by a committee, a grade reduction requires the approval of the majority of the committee.
   a. Single Grade Reduction: Reduction of grade or failure on project, examination, quiz, or other academic exercise on which the student is alleged to have cheated.
   b. Course Grade Reduction: Reduction of course grade or failure in the course. If the violation involves a project spanning multiple courses (such as a dissertation or multiple semester internship), the grade reduction may apply to all courses involved.
   c. Constructive or Educational Task: A task which requires the student to examine his/her dishonest behavior and which may benefit the student, campus, or community.
   d. Other: Sanctions deemed appropriate and tailored to a specific violation as determined by the faculty member/administrator. Any reasonable sanction or combination of sanctions for a given violation may be agreed upon by the student and faculty member/administrator.
2. In addition to the above, the following sanctions might be imposed through formal adjudication.
   a. Letter of Warning: A warning letter may be issued indicating that the student has been found in violation of an academic policy and that failure to comply with policies in the future may result in further disciplinary action to be handled as a second offense. The letter of warning will remain in effect for a period of time as specified by the individual or board hearing the case.
   b. Disciplinary Probation: Disciplinary probation, which is for a period of time specified by the individual or board hearing the case, is an indication that a student's status at the university is seriously jeopardized. If the student is found in violation of another IUP policy during the probationary period, a more serious sanction will be levied, including possible involuntary withdrawal from part of IUP's academic or other programs, suspension, or expulsion from the university.
   c. Involuntary withdrawal from part of IUP's academic or other programs: A student may be denied the right to participate in some segment of IUP's programs. Such involuntary withdrawal might be imposed on either a temporary or permanent basis.
   d. Suspension: A student may be suspended from the university for a specified period of time, not to be less than the remainder of the current semester. Suspension requires that a student remove him/herself from university premises, not attend classes or social activities, and not be present on university or Student Cooperative Association property during the period of suspension.
   e. Expulsion: Expulsion may be considered under any of the following circumstances: when there is a very serious violation of the academic integrity policy, when a student is proven to have violated the academic integrity policy on more than one occasion, or when a student appears before the board after already having been suspended. Expulsion from the institution is permanent. Appeals to the sanction of expulsion must be submitted to the Office of the President. If necessary, the president will consult with legal counsel in these cases.

   Suspension and expulsion can be *recommended* by a faculty member/administrator, department chair, and AIB but can be imposed only by the president's designee for suspension and expulsion (currently the vice president for Student Affairs), who is responsible for verifying that due process was followed.

F. **Records and Recordkeeping**

1. **Records of Informal Resolution.** Although no official forms are filed at this level of resolution, it is *strongly recommended* that a faculty member/administrator and student who reach an informal agreement put the agreement in writing with a copy to each participant. This protects each party in the event of any future attempt at renegotiation.
2. **Records of Resolution by Documented Agreement.** Documented agreement resolutions are recorded on the computer database of disciplinary files maintained by the assistant to the vice president for Student Affairs. They are not considered formal disciplinary records until and unless the student is found in violation of this policy a second time. They are internal university records used for monitoring students for multiple violations only. If a second documented agreement form is filed or a student is found in violation of the policy through formal adjudication, the student will then have a formal disciplinary record which includes records of both violations. This formal record is maintained according to the IUP judicial system recordkeeping policies.
3. **Records of Formal Adjudication.** Records of academic integrity cases resolved through formal adjudication are recorded on the computer database of disciplinary files maintained by the Office of the Assistant to the Vice President of Student Affairs. They are maintained as formal disciplinary records in accordance with IUP judicial system recordkeeping policies. Records of cases involving suspension or expulsion must be maintained for a minimum of two years.

G. **Operational Notes**

1. In cases where a violation is alleged at or near the end of the semester and resolution by informal resolution, documented agreement, or formal adjudication cannot be completed before grades are submitted, the faculty member should submit a designation of "Incomplete" (I) for the student. The "I" designation will remain on the student's record until the case has been resolved. Once the case has been resolved, the "I" designation will be replaced with the appropriate grade.
2. If the violation is alleged during the semester when classes are in session, the accused student should continue attending all classes and continue to complete course requirements during the resolution of the academic integrity case.

3. The provost/designee may extend any deadline which cannot be met for what he/she deems legitimate reason.
4. Requests to constitute the AIB for hearings will be directed to the provost/designee (currently the assistant to the vice president for Student Affairs).
5. The university may withhold transcripts, grades, diplomas, or other official records pending the disposition of cases, if such action is reasonably necessary to preserve its ability to enforce its rules.
6. The provost/designee may modify the procedural provisions of these rules by the issuance of written orders to deal with particular unusual procedural situations, so long as no order shall contradict the rules of the Board of Governors of the State System of Higher Education governing due process for students, and no such rule shall deny fundamental fairness to students by, for example, effectively constituting a denial of notice or opportunity to be heard.
7. This policy will be reviewed by the Senate Academic Committee after five years.

The various forms described in this policy are available from the assistant to the vice president for Student Affairs, 215A Sutton Hall, deans' offices, or department chairs. Questions concerning the Academic Integrity Policy and Procedures can be directed to the assistant to the vice president for Student Affairs, 215A Sutton Hall.

Final Examination Policies

The final examination week is part of the regular academic program and must be incorporated into each instructor's course plan for the semester. Final examinations are not the only legitimate type of terminating activity, and therefore, the instructor may choose an appropriate activity that conforms to course objectives.

The terminating activity shall take place *only* at the time and location assigned by the Registrar's Office. Unless granted an excused absence, the faculty member responsible for the course must be present for the full examination period to direct the terminating activity. Faculty members may require student attendance at the terminating activity.

Faculty members who do not schedule or do not attend the terminating activity for a course may be subject to disciplinary action commensurate with unexcused absences. Block finals must be held as scheduled. Once the final examination has been set by the Registrar's Office, changes and absences must be approved by the instructor's dean.

During the examination period, the following general rules apply where conflicts exist.
1. The higher-numbered course takes precedence. Thus, a student enrolled in GEOG 102 and ECON 325 would take the ECON 325 exam at the assigned time and the make-up in GEOG 102.
2. If courses in conflict are the same level and number, an *alphabetical determination by full name of the department will be made*. For example, a student enrolled in ACCT 421 and CNSV 421 would take the ACCT 421 exam at the assigned time and a make-up in CNSV 421.

Maximum Number of Exams on One Day/Conflicts

A student may not be required to take more than three final exams on any one regularly scheduled examination day. For any exam over three, a make-up exam must be scheduled by the instructor for the student, at his or her request, into another mutually agreeable regular final examination period. The rules determining conflict resolution (listed above) will determine which exam or exams a student may request as make-ups.

Night Exam Policy

All tests, examinations, and quizzes should normally be administered during the prescribed course hours. Only in this way can the essential contracted nature of the time arrangements between student and professor be preserved and, at the same time, proper provisions made for the many extracurricular and personal activities involving students and faculty alike. Deviations to allow night exams for valid educational reasons, within the guidelines listed below, must be approved by the department and the dean.

Guidelines

1. Night exams can only be scheduled on Monday through Thursday evenings within the 6:00-10:00 p.m. time period.
2. Appropriate physical facilities must be arranged in advance without encroachment upon other authorized university functions.
3. If night exams are to be given, the day of the week on which they will be given must be listed in the undergraduate course schedule.
4. No night exam can take precedence over a regularly scheduled class.
5. Arrangements for nonpunitive make-up exams at a mutually agreeable time must be available for students that cannot attend the night exam.
6. For each hour of night exams, an hour of regularly scheduled class time will be cancelled. Such cancellations are prohibited during any period of two class days immediately preceding and any period of two class days immediately following holiday and/or vacation (recess) periods and semester terminations, appearing in the published academic calendar.

Class Disruptions

Students and faculty alike should strive to create a class environment that reflects mutual respect and the importance of learning. If a student's behavior threatens to disrupt that environment, the faculty member has a responsibility to seek resolution of the problem.

A faculty member is empowered to request that a student leave during particular class period if, in the measured opinion of that faculty member, the student. (1)Significantly disrupts the learning process, or (2) Is a threat to others.

If the student refuses to leave or if the faculty member deems it appropriate, law enforcement officers may be called to remove the student.

If the behavior is especially egregious or potentially harmful, the faculty member may, with the consent of his/her academic dean and in consultation with the department chairperson, keep the student from returning to class until the case can be adjudicated. Because significant disruptive class behavior is a potential violation of the Academic Integrity Policy, the procedures outlined in that policy should be used to resolve the case. When appropriate, criminal charges should also be filed.

If deemed appropriate, the adjudicators may render a decision that removes the offending student from the class or the university. If so, the university will assign, in lieu of a grade, a designation that indicates a withdrawal. If grades are due before a final decision has been reached, the instructor should assign a temporary designation of I (incomplete).

If the student is allowed to return, the student will have the option of reentering another open section of the course if feasible. When appropriate, the student should be allowed a reasonable opportunity to make up any work missed during the forced absence.

If a student's grade is adversely affected by a capricious forced absence, the student may file a grade appeal.

Requirements for Graduation

Undergraduate students at IUP may pursue programs of study in any one of seven undergraduate colleges: the Eberly College of Business and Information Technology, the College of Education and Educational Technology, the College of Fine Arts, the College of Health and Human Services, the College of Humanities and Social Sciences, the College of Natural Sciences and Mathematics, or the School of Continuing Education. A student may earn the degree of Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, or the Bachelor of Science in Education. The Eberly College of Business and Information Technology, the College of Natural Sciences and Mathematics, and the School of Continuing Education offer Associate of Arts degree programs.

To meet graduation requirements in a baccalaureate or an associate degree program, the student must satisfy all of the degree requirements, which fall into three categories: (1) university requirements, (2) college requirements, and (3) department requirements. Requirements of the latter two categories may be found under the college and the department in which the student is pursuing a program of study.

University requirements for graduation in all curricula consist of Liberal Studies requirements, residency requirements in regard to awarding of degrees, and the credit and cumulative grade-point average requirements.

Exception: Students who enrolled in a degree program prior to June 1, 1989, are not subject to Liberal Studies requirements; they will complete degree requirements including the General Education components outlined in earlier editions of the *Undergraduate Catalog*. Transfer students entering the university between June 1, 1989, and June 1, 1991, were assigned either to General Education or Liberal Studies at the time their transcripts were evaluated. All transfer students admitted after June 1, 1991, are subject to the Liberal Studies requirements.

A student may earn a second undergraduate baccalaureate degree by completing a minimum of 30 additional credits. A student may complete one or more secondary majors while earning the primary degree or may complete a dual baccalaureate degree.

Academic Life During the Freshman Year

During the Summer Orientation, as described in the section on orientation, students meet with faculty advisors to plan a program of courses for their first year. This careful planning considers students' individual preferences, the results of placement testing, and degree program requirements.

With a typical freshman academic schedule, students progress both in the universitywide Liberal Studies program and in their intended majors.

Three Liberal Studies courses are designed especially for freshmen, and all students are expected to complete these courses during their first year. The three are ENGL 101 College Writing, HIST 195 The Modern Era, and one course from a list of Fine Arts selections. ENGL 101 enhances skills in written expression that are essential to success at the university. HIST 195 builds critical thinking skills and provides a foundation of knowledge for subsequent courses. Whichever fine arts course is chosen encourages an appreciative participation in campus cultural life.

Professors teaching these courses work cooperatively with each other and with Student Affairs Division staff to integrate class work with campus lectures and arts events. Study skills development and tutoring services are also provided as necessary.

Credits and Cumulative Grade-Point Average Requirement

Each student must complete a minimum of 120 credits to graduate, including a minimum or 48 credits in Liberal Studies (all on a passing basis) and must have a 2.0 (C grade) cumulative GPA and a 2.0 (C grade) GPA in his/her major and/or minor field. Some programs require more than 120 credits for graduation.

Liberal Studies

All students must fulfill the requirements of the university's Liberal Studies program. This involves a minimum of 48 credits divided among Learning Skills, Knowledge Areas, and Synthesis. The number of credits may rise slightly depending on student choices. Different colleges and sometimes departments within colleges may have specific variations as to how these Liberal Studies requirements are to be met.

Liberal Studies provides the broad vision and understanding that enable individuals to enjoy full, rich lives and to play constructive roles in their communities. The goals for Liberal Studies include (1) the development of important modes of thinking and intellectual skills: critical thinking, literacy, understanding numerical data, historical consciousness, scientific inquiry, ethical perception, and aesthetic sensitivity; (2) the acquisition of a body of knowledge or understanding essential to an educated person; and (3) an understanding of the physical, as well as the intellectual, nature of human beings.

Liberal Studies Requirements

Note: Specific courses may be required or recommended by colleges or major departments; see degree program outlines for specifications.

Additional courses may be added to some categories during the next academic year.

Learning Skills: English Composition: Two Courses **7cr**

ENGL 101	College Writing	4
ENGL 202	Research Writing (sophomore standing)	3

Learning Skills: Mathematics: **3-6cr**

BTED 111	Foundations of Business Mathematics (1)	3
MATH 101	Foundations of Mathematics	3
MATH 102	Finite Mathematics [inactive]	3
MATH 105	College Algebra	3
MATH 110	Elementary Functions	3
MATH 115	Applied Mathematics for Business	4
MATH 121	Calculus I for Natural and Social Sciences	4
MATH 123	Calculus I for Physics, Chemistry, and Mathematics	4
MATH 127	Calculus I [inactive]	4
MATH 151	Elements of Mathematics I (1)	3
MATH 152	Elements of Mathematics II (1)	3
MATH 217	Probability and Statistics	3

(1) Restricted to designated majors

Humanities: Three Courses* **9cr**

*One course in history, one in literature, and one in philosophy or religious studies.

History:

HIST 195	The Modern Era	3

Literature:

ENGL 121	Humanities Literature	3
ENGL 122	Introduction to Literary Analysis (English majors)	3
FNLG 121	Humanities Literature (taught in English)	3

Philosophy or Religious Studies:

PHIL 101	Informal Logic: Methods of Critical Thinking	3
PHIL 120	Introduction to Philosophy	3
PHIL 221	Symbolic Logic I	3
PHIL 222	Ethics	3
PHIL 223	Philosophy of Art	3

RLST 100	Introduction to Religion	3
RLST 110	World Religions	3
RLST 250	Understanding the Bible	3
RLST 290	Christianity	3

Fine Arts: One Course from List **3cr**

ARHI 101	Introduction to Art	3
DANC 102	Introduction to Dance	3
MUHI 101	Introduction to Music	3
MUHI 102	Survey of Music Literature (Music majors)	3
THTR 101	Introduction to Theater	3

Natural Science: One Option **8-10cr**

Option I: Two-semester Laboratory Course Sequence **8cr**

Two courses with laboratories (4cr each), paired together in a sequence, from the natural science laboratory course list.

Natural Science Laboratory Sequences:

BIOL 103/104	General Biology I and II	8
CHEM 101/102	College Chemistry I and II	8
CHEM 111/112	General Chemistry I and II	8
CHEM 113/114	Concepts in Chemistry I and Basic Inorganic Chemistry	8

Two of the following three, in any order:

GEOS 101/102	The Dynamic Earth with lab	4
GEOS 103/104	Oceans and Atmospheres with lab	4
GEOS 105/106	Exploring the Universe with lab	4
GEOS 111/112 113/114	Earth Science for Educators I with lab ***and*** Earth Science for Educators II with lab	8
GEOS 121/122 131/132	Physical Geology with lab ***and*** Historical Geology with lab	8
PHYS 111/121 112/122	Physics I with lab ***and*** Physics II with lab	8
PHYS 131/141 132/142	Physics I with lab (calculus) ***and*** Physics II with lab (calculus)	8
SCI 105/106	Physical Science I ***and*** II (either order)	8

Option II: One Laboratory plus Two Nonlaboratory Courses **10cr**

One course with laboratory (4cr) from the natural science laboratory course list followed by two courses (3cr each) from natural science nonlaboratory course list. One of the nonlaboratory courses may be counted again among the Liberal Studies Electives.

Natural Science Laboratory Courses:

BIOL 103	General Biology I	4
CHEM 101	College Chemistry I	4
CHEM 111	General Chemistry I	4
CHEM 113	Concepts in Chemistry I	4
GEOS 101/102	The Dynamic Earth with lab	4
GEOS 103/104	Oceans and Atmospheres with lab	4
GEOS 105/106	Exploring the Universe with lab	4
GEOS 111/112	Earth Science for Educators I with lab	4
GEOS 113/114	Earth Science for Educators II with lab	4
GEOS 121/122	Physical Geology with lab	4
GEOS 131/132	Historical Geology with lab	4
PHYS 111/121	Physics I with lab	4
PHYS 131/141	Physics I (calculus) with lab	4
PHYS 151/161	Medical Physics with lab	4
SCI 105	Physical Science I	4
SCI 106	Physical Science II	4

Natural Science Nonlaboratory Courses:

BIOL 113	Genetics in Modern Society	3
BIOL 114	Environmental Science	3
BIOL 115	Biotic Diversity of North America	3
BIOL 116	Introduction to Marine Biology	3
BIOL 117	Understanding HIV Biology and Aids	3
BIOL 118	The History of Pain	3
BIOL 119	Emerging Diseases	3
GEOS 101	The Dynamic Earth	3
GEOS 103	Oceans and Atmospheres	3
GEOS 105	Exploring the Universe	3
GEOS 111	Earth Science for Educators I	3
GEOS 113	Earth Science for Educators II	3
GEOS 141	Introduction to Ocean Science	3
GEOS 150	Geology of National Parks	3
GEOS 151	The Age of Dinosaurs	3
GEOS 221	Physical Resources of the Earth	3
PHYS 101	Energy and Our Environment	3
PHYS 105	The Physics of Light and Sound	3
PHYS 111	Physics I Lecture	3
PHYS 112	Physics II Lecture	3
PHYS 131	Physics I (calculus)	3
PHYS 132	Physics II (calculus)	3
PHYS 151	Medical Physics Lecture	3
SCI 201	Great Ideas in Science	3

Social Science: Three Courses from List* **9cr**

*No course prefix may be used more than once

ANTH 110	Contemporary Anthropology (1)	3
ANTH 211	Cultural Anthropology (1)	3
ANTH 213	World Archaeology	3
CRIM 101	Crime and Justice Systems	3
ECON 101	Basic Economics	3
ECON 121	Principles of Macroeconomics	3
GEOG 101	Introduction to Geography: Human Environment	3
GEOG 102	Geography of U.S. and Canada	3
GEOG 104	Geography of the Non-Western World (1)	3
JNRL 105	Journalism and the Mass Media	3
PLSC 101	World Politics (1)	3
PLSC 111	American Politics	3
PSYC 101	General Psychology	3
SOC 151	Principles of Sociology	3
SOC 231	Contemporary Social Problems	3

(1) Also fulfills requirement for non-Western course

Health and Wellness: One Course **3cr**

HPED 143	Health and Wellness	3
FDNT 143	Nutrition and Wellness	3
NURS 143	Healthy People	3

An alternate method of fulfilling this requirement is the completion of one year of Military Science/ROTC: MLSC 101 Introduction to Military Science and Lab (2cr) and MLSC 102 Fundamentals of Military Science and Lab (2cr). MLSC 203 and 204 may be substituted for MLSC 101 and 102. Veterans are given 4cr toward these requirements by validating two years' active duty via form DD214.

Liberal Studies Electives: **0-9cr***

- At least one course must be numbered 200 or higher
- No course carrying the student's major prefix may be used
- No course prefix may be used more than once, except for intermediate-level foreign language prefixes (FRNC, GRMN, ITAL, and SPAN), which may be used twice.
- Refer to program of study for specific requirements

See list of Nonlaboratory Natural Sciences for additional courses which may be used as Liberal Studies electives. Also see list of Non-Western Cultures courses, some of which may be used as Liberal Studies Electives.

The following courses are also approved:

ANTH 286	Marriage, Kinship, and the Family [same as SOC 286]	3
ARHI 205	Ancient to Medieval Art	3
ARHI 207	Renaissance through Modern Art	3
ARHI 222	Art in America	3
BTED 101	Microbased Computer Literacy	

	[same as COSC/IFMG 101]	3
BTED 201	Internet and Multimedia [same as COMM/COSC/IFMG/LIBR 201]	3
CDFR 218	Child Development	3
CDFR 224	Marriage and Family Relations	3
CNSV 101	Personal and Family Management	3
CNSV 315	Consumer Economics and Family Finance	3
COMM 101	Communications Media in American Society	3
COMM 201	Internet and Multimedia [same as BTED/COSC/IFMG/LIBR 201]	3
COMM 380	The History of African Americans in Film	3
COSC 101	Microbased Computer Literacy [same as BTED/IFMG 101]	3
COSC 201	Internet and Multimedia [same as BTED/COMM/IFMG/LIBR 201]	3
ECON 122	Principles of Microeconomics	3
ENGL 349	English Bible as Literature	3
FDNT 145	Introduction to Nutrition	3
FRNC 201	College French I (2)	3
FRNC 202	College French II (2)	3
FRNC 203	Accelerated College French	6
FRNC 301	Portraits of Women in the French Novel	3
GEOG 230	Cultural Geography	3
GEOG 231	Economic Geography	3
GEOG 251	Geography of Pennsylvania	3
GEOG 253	Geography of Europe	3
GEOG 261	Geography of Wine	3
GRMN 251	German III (2)	3
GRMN 252	German IV (2)	3
HIST 210	Ancient Civilizations: The Middle East and the Eastern Mediterranean	3
HIST 212	Ancient and Medieval Europe	3
HIST 214	Themes in American History	3
HIST 305	Renaissance and Reformation	3
HIST 355	African History I: Antiquity to 1600	3
HIST 363	Thought and Culture in Early America	3
HIST 364	Thought and Culture in Modern America	3
HIST 366	African-American Women	3
IFMG 101	Microbased Computer Literacy [same as BTED/COSC 101]	3
IFMG 201	Internet and Multimedia [same as BTED/COMM/COSC/LIBR 201]	3
ITAL 201	Intermediate Italian III	3
ITAL 202	Intermediate Italian IV	3
JRNL 250	Women and the Press	3
JRNL 375	World News Coverage	3
LATN 102	Elementary Latin II [inactive]	4
LATN 201	Intermediate Latin [inactive] (2)	4
LIBR 201	Internet and Multimedia [same as BTED/COMM/COSC/IFMG 201]	3
LIBR 251	Information Access in the Digital Age	2
MATH 121	Calculus I for Natural and Social Sciences (1)	4
MATH 122	Calculus II for Natural and Social Sciences	4
MATH 123	Calculus I for Physics, Chemistry, and Mathematics (1)	4
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4
MATH 152	Elements of Mathematics II (1) (specified majors only)	3
MATH 214	Probability and Statistics for Business Majors	3
MATH 216	Probability and Statistics for Natural Sciences	4
MATH 217	Probability and Statistics (1)	3
MATH 241	Differential Equations	3
MUHI 301	Music History I	3
MUHI 302	Music History II	3
PHIL 232	Philosophical Perspectives on Love, Marriage, and Divorce	3
PHIL 321	Symbolic Logic II	3
PHIL 323	Political Philosophy	3
PHIL 324	Ancient Philosophy	3
PHIL 325	Modern Philosophy	3
PHIL 326	Phenomenology and Existentialism	3
PHIL 330	Philosophy of Science	3
PHIL 400	Ethics and Public Policy	3
PHIL 405	Justice and Human Rights	3
PHIL 410	Contemporary Analytic Philosophy	3
PHIL 420	Metaphysics	3
PHIL 421	Theory of Knowledge	3
PHIL 450	Philosophy of Law	3
PHIL 460	Philosophy of Language	3
PLSC 346	Political Sociology [same as SOC 458]	3
PSYC 310	Developmental Psychology	3
PSYC 321	Abnormal Psychology	3
PSYC 330	Social Psychology	3
PSYC 378	Psychology of Death and Dying	3
RLST 200	Religion and Culture: Their Interaction	3
RLST 210	World Scriptures	3
RLST 260	American Religious Development	3
RLST 312	Archaeology and the Bible	3
RLST 329	Philosophy of Religion	3
RLST 410	Early Christian Thought	3
RLST 440	Modern Christian Thought	3
SAFE 145	Workplace Safety Today and Tomorrow	3
SOC 269	Sociology of Deviance	3
SOC 286	Marriage, Kinship, and the Family [same as ANTH 286]	3
SOC 337	World Societies and World Systems	3
SOC 340	Sociology of Industry	3
SOC 362	Racial and Ethnic Minorities	3
SOC 363	Sociology of Gender	3
SOC 445	Social Stratification	3
SOC 458	Political Sociology [same as PLSC 346]	3
SPAN 102	Elementary Spanish II	4
SPAN 122	Spanish for Health Care Professionals II	3
SPAN 132	Spanish for the Hospitality Industry II	3
SPAN 201	Intermediate Spanish (2)	4
SPAN 211	Intermediate Spanish [inactive]	6
WMST 200	Introduction to Women's Studies	3

(1) Students may use this course to fulfill either the Learning Skills: Mathematics requirement or a Liberal Studies Elective requirement, but not both.

(2) Higher-level language courses may be substituted by students demonstrating such ability on placement tests.

Non-Western Cultures: One Course from List **3cr***

*Students must fulfill this requirement by completing one course from the list; most of these courses will at the same time fulfill other requirements set by Liberal Studies or in some cases by a college or department.

Also fulfills LS Social Science requirement:

ANTH 110	Contemporary Anthropology	3
ANTH 211	Cultural Anthropology	3
GEOG 104	Geography of the Non-Western World	3
PLSC 101	World Politics	3

Also fulfills LS Elective requirement:

ANTH 271	Cultural Area Studies: Africa [same as SOC 271]	3
ANTH 272	Cultural Area Studies: China [same as SOC 272]	3
ANTH 273	Cultural Area Studies: Southeast Asia [same as SOC 273]	3
ANTH 274	Cultural Area Studies: Latin America [same as SOC 274]	3
ANTH 314	Native Americans [same as SOC 314]	3
ANTH 350	Anthropology of Women	3
ANTH 365	Native North American Religions [same as RLST 365]	3
ANTH 430	Anthropology of Food	3

ARHI 224	Introduction to Asian Art	3
ARHI 300	Native American Art	3
ARHI 423	Arts of Japan	3
ARHI 425	Arts of China	3
COMM 230	Issues in International Communication	3
ECON 350	Comparative Economic Systems	3
ENGL 396	The Literature of Emerging Nations	3
GEOG 252	Geography of Latin America	3
GEOG 254	Geography of Russia and the Soviet Sphere	3
GEOG 255	Geography of Africa	3
GEOG 256	Geography of East Asia	3
GEOG 257	Geography of South and Southeast Asia	3
HIST 206	History of East Asia	3
HIST 208	Survey of Latin American History	3
HIST 327	Soviet Union and Contemporary Russia	3
HIST 330	History of the Islamic Civilization	3
HIST 331	Modern Middle East	3
HIST 332	History of Early China	3
HIST 334	History of Modern China	3
HIST 337	History of Modern Japan	3
HIST 356	African History II: 1600 to Present	3
HIST 367	Native American History	3
ITST 281	Special Topics in Non-Western Studies	3
LAS 480	Latin American Studies Seminar	3
PLSC 382	Political Systems: Africa	3
PLSC 387	Political Systems: Latin America	3
PLSC 389	Developing Nations	3
PNAF131	Introduction to Pan-African Studies	3
RLST 220	Buddhist Thought and Practice	3
RLST 311	Eastern Philosophy	3
RLST 360	African Religions	3
RLST 365	Native North American Religions [same as ANTH 365]	3
RLST 370	Religions of China and Japan	3
RLST 375	Religions of India	3
RLST 380	Islam	3
SOC 271	Cultural Area Studies: Africa [same as ANTH 271]	3
SOC 272	Cultural Area Studies: China [same as ANTH 272]	3
SOC 273	Cultural Area Studies: Southeast Asia [same as ANTH 273]	3
SOC 274	Cultural Area Studies: Latin America [same as ANTH 274]	3
SOC 314	Native Americans [same as ANTH 314]	3
SPAN 244	Modern Mexico	3
SPAN 344	Twentieth-Century Spanish-American Civilization and Culture [taught in Spanish]	3
SPAN 364	Survey of Spanish American Literature [taught in Spanish]	3

Fulfills LS Non-Western requirement only:

CRLG 151, 201, or 251	Arabic II, III, or IV	3
CRLG 152, 202, or 252	Chinese II, III, or IV	3
CRLG 155, 205, or 255	Hindi II, III, or IV	3
CRLG 156, 206, or 256	Hungarian II, III, or IV	3
CRLG 158, 208, or 258	Japanese II, III, or IV	3
CRLG 159, 209, or 259	Korean II, III, or IV	3
CRLG 162, 212, or 262	Russian II, III, or IV	3
ECON 339	Economic Development I	3
PLSC 285	Comparative Government II Non-Western Political Systems	3

Certain Study Abroad programs in non-Western culture areas are offered (information is in the respective catalog section; further information is available in the Office of International Affairs).

Synthesis: One Course **3cr**

LBST 499 Senior Synthesis (required of all students) 3

Prerequisite: 73 or more credits earned

This course helps students understand and handle complex intellectual and social issues from multiple perspectives. A selection of topics is available each semester and summer session. Students should schedule the course during the senior year, or at least no earlier than the last half of the junior year. In order to broaden their experiences, students are encouraged to enroll in synthesis sections taught by instructors outside of the students' major fields.

Writing Across the Curriculum: Minimum of Two "W" Courses

All students must include among the total courses required for graduation a minimum of two designated writing-intensive courses. One of these courses must be in the student's primary major; the other(s) may be in Liberal Studies, college or major requirements, or free electives. Such courses, which involve extensive use of writing as part of the learning experience, are identified with a "W" as part of the section number in each semester's schedule of classes listing on URSA.

Eligibility and Application for Graduation

Commencement ceremonies are in May at IUP at the conclusion of the spring semester and in December at the conclusion of the fall semester. Only students who have completed all requirements for graduation by the end of the semester are eligible to participate in the commencement exercises. Students who have withdrawn from courses or have elected to take incompletes or have failed courses during the semester and thus have not met the requirements for graduation may not participate in commencement exercises until those requirements have been fulfilled. Students completing requirements in August and December are included in the program list for the December ceremony.

Students are responsible for knowing and fulfilling the requirements for graduation in their degree program. All students who expect to graduate are required to apply for graduation. Undergraduate students should check the published deadlines for graduation application and should apply on the web at *www.iup.edu/ursa* by logging in to the secure website and clicking on the "Academic Records" link under the "Student Records and Financial Aid" menu. Further information on applying for graduation may be obtained at the associate dean's office of the student's major college.

Degrees will not be posted until approval by the associate dean of the college of the student's primary major is received in the Registrar's Office. Diplomas will then be issued provided all financial obligations and requirements (including primary major, secondary majors, and minors) have been satisfied.

Pre-Approval for Transfer Coursework

Students enrolled at IUP who wish to take coursework at another institution (either during the summer or regular semesters) must complete an Application for Pre-Approval of Coursework at Another College/University prior to taking the course(s). Only the credits from the course(s) transfer, not the grade; therefore, students cannot use outside coursework for IUP's repeat policy. Only the credits for which students receive the grade of A, B, or C will transfer. If P/F is the only grading option available, there must be a narrative evaluation from the faculty member certifying that the work was of C level or better. No more than 60 credits total may be earned at a junior or community college for application toward an IUP degree. If the courses are being taken within the student's last 30 credits, the courses must be taken at IUP unless the student's residency requirement for awarding of degrees is waived by the college dean. Courses without prior approval are taken at the risk of the student; there is no obligation on the part of any officer of this university to accept or transfer such credit.

Forms for approval of off-campus coursework are available in the office of the department chairperson of your major or the Office of Transfer Credit

Evaluation/Admissions Office. Full directions on the form outline the steps involving the transfer evaluation, student's advisor, and college dean, or designee. After completing off-campus coursework, students should have the institution at which the work was taken send a final official transcript directly to IUP, Transfer Services, 117 Sutton Hall, 1011 South Drive, IUP, Indiana, PA 15705. Copies of transcripts issued to or hand carried by students will not be accepted.

Program Changes

To insure their quality and relevance, academic programs at IUP are subject to review and change by duly appointed and responsible university groups. Because of this, the university recognizes that provisions must be made to prevent hardship to students already enrolled in programs if changes later occur in specific or general program requirements. Students affected by changes in programs, policies, and regulations are therefore given the option of following those requirements that are in effect when the student was first enrolled in the program or those in effect at the time of expected graduation. The student cannot, of course, combine chosen elements of the two. Should a question of rule interpretation arise with respect to changes, the student, the student's advisor, or both should petition the college dean for a decision about which requirements apply.

Residency Requirement for Awarding of Degrees

All students receiving an initial IUP baccalaureate degree are required to complete 45 credits in IUP courses. At least 15 credits in IUP courses are required to fulfill an IUP major and a minimum of 6 credits for a minor. Normally, the student will complete the final 30 credits in residence in IUP courses, unless specific approval has been secured from the dean of the student's college. Exception to the above requirements for courses to be earned in residence at IUP may be granted by the college deans based upon the appropriateness and academic integrity of the courses in question. This approval is generally sought as part of the process for prior approval of off-campus coursework.

Non-Native Students: English Language Requirements

Non-native students of English, either international students or those from the U.S. for whom English is not their first learned language, are required to take an ESL Screening/Placement Test prior to registration in the first semester attending IUP. The test is administered prior to registration in both the fall and spring semesters. Results of this test are used to determine for which English course (ENGL 100/ESL, ENGL 101/ESL, ENGL 202/ESL, ENGL 121/ESL) a newly admitted non-native student must register. In addition, any currently enrolled non-native student can take the regularly scheduled test to determine registration for non-ESL English courses. For further information, contact Chair, English Department, 724-357-2261.

Timely Completion of Degree Requirements

The minimum total credit requirement for a baccalaureate degree at IUP is 120. Students who enroll in degree programs that require more than 120, or who seek the added benefit of a double major, minor, or specialized program, or who change majors should plan their sequence of courses carefully with an advisor. Such students should be alert to the possibility that they may need to carry a heavier-than-average class load in order to complete the degree in eight semesters. In some situations, summer work or an extra semester may be necessary. The need to enroll in remedial or other preparatory coursework or to repeat courses may also affect progress toward a degree.

Undergraduate Catalog Applicability Time Frame

The university reserves the right to modify degree requirements through established governance channels. However, the general policy has been established that the following time frame regulations form the basis for application of the university's undergraduate degree requirements:

1. A student who has been in continuous registration (fall and spring semesters) or who has interruption(s) of less than two calendar years is governed by the requirements outlined in the catalog in effect at the time of entrance into a degree program (major).
   a. A student who changes major will be governed by the requirements of the major and/or college at the time of acceptance into the new major, without change of Liberal Studies requirements except as specified by the new major.
   b. A student entering through the nondegree program is governed by the requirements in effect at the time degree candidacy is awarded.
   c. A part-time student may be covered by these provisions of continuous registration to a maximum of ten years.
2. A student whose education is interrupted by two or more calendar years will be governed by the requirements in effect at the time of readmission to the university. The readmission may carry specific requirements/substitutions necessary to provide for program integrity.
3. The applicability of coursework completed more than ten years prior to the degree date is subject to review by the dean or designee for evaluation on a course-by-course basis.

Academic Affairs Division Areas

Mark J. Staszkiewicz, Provost and Vice President for Academic Affairs
Mark J. Piwinsky, Vice Provost for Administration and Technology
Vacant, Vice Provost for Research and Dean of Graduate Studies
Nicholas E. Kolb, Associate Provost and Dean, School of Continuing Education
Website: *www.iup.edu/academicaffairs*

The Academic Affairs areas below provide instruction in several disciplines that are not specific to one of the university's distinct colleges. They offer services and instruction under the direction of the Provost's Office.

The University Libraries

Website: *www.lib.iup.edu*
Rena K. Fowler, Dean; Vacant, Associate Dean
Carl J. Rahkonen, Chairperson; Brown, Connell, Diaz-Martin, Drummond, Hooks, Janicki, Janosko, Jen, Joseph, Knupp, Laude, McDevitt, Shively, Zorich; and professors emeriti Chamberlin, LaFranchi, Scheeren, Snead, Steiner, Wolf

The IUP Libraries serve the academic and scholarly needs of students and faculty with 841,881 volumes and 2,626 journal titles, as well as media, micro documents, and information databases. In addition to the main facility, there is a library at each of the branch campuses at Punxsutawney and Kittanning, as well as the Cogswell Music Library. The on-line catalog is accessible throughout the libraries and on the Internet from remote locations. IUP students can use a variety of electronic resources, including abstracts, statistics, and full-text articles on line.

Library faculty members offer individual and group instruction in using the library and several credit courses.

Robert E. Cook Honors College

Website: *www.iup.edu/honors*
Janet E. Goebel, Director

The Robert E. Cook Honors College is IUP's universitywide honors program for undergraduate students of all majors who are accepted into the program. Its goal is to provide a unique educational environment in which students of high ability and motivation can achieve their potential in a nurturing learning community of fellow students and professors. The Honors College makes an intentional effort to see that students and faculty are provided with integrated courses, an appreciation for multiple perspectives on important issues, and common learning experiences wherever possible; it strives to see that the learning community remains cohesive with both academic and cocurricular components throughout the four years of the student's honors experience.

The Robert E. Cook Honors College provides a challenging opportunity for academic and personal development through an integrated program of curriculum, residence, and cocurricular activities. Whitmyre Hall has been renovated into a combined honors residential/academic facility which includes classrooms and program offices as well as student rooms and cocurricular spaces.

Students in any academic major may apply for admission to the Honors College. Students may enter the program as freshmen or later as sophomore "transfer" students from either another university or from IUP. An application is required and is evaluated by the Honors College Admissions Board.

Requirements of the Program

Students accepted into the Robert E. Cook Honors College as freshmen are required to live in Whitmyre Hall during the freshman year and are encouraged to remain in the honors residence hall throughout their undergraduate career as space permits. Exceptions to the freshman residency requirements will be made only for nontraditional students (students twenty-five or older or students who are married and/or have children) or for students who reside at home with their legal guardians in the Indiana area while at IUP. Application for exemption from the freshman residency requirement should be made in the form of a letter to the Honors College Director at the time of application to the program.

Students in the Honors College are required to maintain an overall 3.25 GPA. A student who falls below the 3.25 GPA will have one semester of Honors College probation during which he/she may attempt to raise the GPA to 3.25 and remain in good standing. Students who are dismissed from the Honors College due to GPA may apply for readmission after having raised the GPA to acceptable honors standards.

Course Requirements for Students Admitted as Freshmen

Students admitted as freshmen are required to complete 24 credits of honors work including:

18 hours: Honors Core I, II, III (HNRC 101, 102, 201) and Honors Core: Sciences (HNRC 202). HNRC 101 and 102 is a first-year sequence; HNRC 201 and 202 may be taken in either order during subsequent semesters. HNRC 101, 102, and 201 replace Liberal Studies requirements for College Writing (ENGL 101), three humanities courses (ENGL 121, HIST 195, and either RLST 100 or PHIL 120), and one fine arts course (either ARHI 101, MUHI 101, or THTR 101). HNRC 202 replaces Liberal Studies requirements for either one nonlaboratory science and one social science *or* two nonlaboratory sciences *or* two social sciences, depending on the units selected.
3 hours: HNRC 499 Honors Synthesis (replaces Liberal Studies requirement for LBST 499)
3 hours: Additional honors coursework

Students are encouraged to complete at least one honors course during every academic year, although it is recognized that this might not be possible for students participating in study abroad or off-campus internships. For information on departmental honors programs, please see the individual college listings. Departmental honors courses count toward the total number of honors credit hours required for Honors College graduation.

Students are also encouraged to complete an undergraduate thesis for graduation from the Honors College with distinction. Students may enroll for thesis credit by completing the necessary approval forms and scheduling HNRC 483 Honors Thesis/Independent Study or, in some departments, by scheduling a departmental honors thesis course.

Applicants who may be interested in further information are invited to contact IUP's Admissions Office at 724-357-2230 or 1-800-442-6830 or the office of the Honors College in Whitmyre Hall at 724-357-4971.

Military Science

Website: *www.iup.edu/rotc*
LTC Matthew M. Stanton, Chairperson; M. Sgt. Arroyo, Capt. Goloversic, Capt. McKenna, Capt. O'Neal, Sfc. Sprinkle

Reserve Officers' Training Corps

The Unites States Army established a Senior Reserve Officers' Training Corps program at the university in 1950. The ROTC program teaches leadership training that students can apply throughout their careers, be they

in business, industry, technology, education, the physical sciences, or the humanities. All Military Science credits count toward graduation, and students who complete the total program can earn a commission as a second lieutenant and receive placement in one of twenty-four professional officer specialties in the U.S. Army, including Military Intelligence, Military Police, Signal, Medical Service, and the Corps of Engineers.

The ROTC program is divided into two phases: the Basic Course (freshman and sophomore years) and the Advanced Course (junior and senior years). In most cases, students progress through the ROTC program by enrolling in MLSC 101 and 102 as freshmen. By taking MLSC 101 and 102, the student fulfills the university's 3-credit Liberal Studies requirement in Health and Wellness. Students who continue in the Basic Course by enrolling in MLSC 203 and 204 as sophomores incur no military obligation, but they retain the opportunity to compete for a full-tuition ROTC scholarship. Whether they win an ROTC scholarship or not, all students who complete the Basic Course are eligible to enroll in the ROTC Advanced Course. All Advanced Course students receive financial assistance while they are enrolled in the Advanced Course.

What ROTC Offers

- ROTC offers a comprehensive academic program in military leadership and teaches practical skills such as self-defense, adventure training, rappelling, marksmanship, orienteering, and first-aid techniques.
- Regular ROTC classes for two semesters satisfy the mandatory Health and Wellness Liberal Studies requirement for graduation.
- Equipment, ROTC textbooks, and uniforms are issued, without cost, to enrolled students.
- Students enrolled in the Basic Course (MLSC 101, 102, 203, and 204) become eligible for full-tuition scholarships and enrollment in the ROTC Advanced Course.
- Students formally enrolled in the Advanced Course (MLSC 305, 306, 407, and 408) receive a cash stipend ($250-$400 each month) for ten months during the academic year and receive $600 each year for books.
- Students who complete the Advanced Course and graduate from the university receive commissions as second lieutenants and serve in one of three Army components: Active Army, National Guard, or Army Reserve.

ROTC Basic Course

The first two years of Military Science (MLSC 101, 102, 203, and 204) provide a background of the historical role of military forces as well as current national military objectives. In addition, students develop basic leadership skills in problem solving and decision making and learn survival techniques, map reading, self-defense, rappelling, and marksmanship. Graduates of the Basic Course incur no commitment to enroll in the ROTC Advanced Course and incur no obligation for military service. Students may enroll or withdraw from any of the four courses in the ROTC Basic Course under the same provisions and in the same manner as other academic courses at IUP. Veterans of U.S. Armed Forces, Junior ROTC and Civil Air Patrol graduates, and students who complete the ROTC Basic Camp at Fort Knox, Kentucky, may receive exemption from the ROTC Basic Course if approved by the Professor of Military Science, but they will not automatically receive academic credit for the course.

ROTC Advanced Course

The last two years of Military Science (MSLC 305, 306, 407, and 408) compose the Advanced Course and lead to a commission as an officer in the United States Army. To be eligible to enroll in the Advanced Course, a student must meet these criteria: be a citizen of the United States; be physically fit and pass a physical examination; be an enrolled academic junior or senior with at least a 2.0 GPA; be not less than seventeen years of age but less than thirty by the anticipated graduation date; successfully complete the ROTC Basic Course or its equivalent; and be accepted by the Professor of Military Science. Advanced Course students study advanced leadership, management, professional ethics, small unit tactics, military law, and instructional and training techniques. Practical application is the rule, and students have the opportunity to practice and polish their skills as members of the ROTC battalion leadership. Once Advanced Course students agree in writing to complete the Advanced Course, graduate on time, and accept a commission as an officer, they become eligible to receive a monthly cash stipend of $250-$400 for ten months of the academic year and also receive $600 a year for books.

Scholarships

High school seniors who have applied to IUP can apply on line for IUP Army ROTC scholarships at *www.armyrotc.com*. Currently enrolled IUP undergraduate students can compete for two- and three-year ROTC scholarships, and graduate students can compete for two-year ROTC scholarships even if they are not currently enrolled in Military Science courses. To be fully eligible, applicants must meet these criteria: 2.5 GPA, full-time student, U.S. citizen, physically qualified, and administratively qualified. Regardless of the term of the scholarship (either two, three, or four years), all IUP ROTC scholarships offer these benefits for each year that the scholarship is in effect: full tuition (up to $10,000), $600 for books, and $250-$400 per month for ten months of the school year. Call 1-800-IUP-ROTC for application instructions.

Program in Military Science **20**

Required Courses:

MLSC 101	Introduction to Military Science	2cr (1)
MLSC 102	Fundamentals of Military Science	2cr (1)
MLSC 203	Fundamentals of Tactical Operations, Techniques of Leadership, and Weapons Characteristics	2cr (2)
MLSC 204	National Security and Fundamentals of Military Topography	2cr (2)
MLSC 305	Fundamentals of Leadership and Modern Learning/Teaching Relationship	3cr
MLSC 306	Study of Advanced Leader Planning and Execution of Modern Combat Operations	3cr
MLSC 407	Management of the Military Complex to Include Fundamentals of Military and International Law	3cr
MLSC 408	Seminar in Military Analysis and Management	3cr

(1) MLSC 101-102 may substitute for the Liberal Studies requirement in Health and Wellness.
(2) MLSC 203-204 are available as free electives to all students without any military obligation.

Women's Studies Program

Website: *www.iup.edu/womens*
Carolyn A. Thompson, Director

The Women's Studies minor is designed to examine the status and experiences of women from a multidisciplinary perspective. The courses use a variety of methods and disciplinary perspectives to explore the impact of gender on the experiences of the individual. Women's contributions to a variety of fields and the historical, literary, and cultural images of women are also addressed. Students are encouraged to challenge traditional theories and research regarding women and to develop a critical, multidisciplinary, multicultural, and gendered view of the world. Courses taught within the minor typically involve the students through innovative, experiential classroom exercises and written assignments. Courses in Women's Studies address social equity issues and encourage students to perceive themselves as capable of transforming society.

A minor in Women's Studies indicates to the prospective employer an awareness of and sensitivity to gender issues. This awareness may be needed in the following positions: personnel specialist, affirmative action officer, crisis intervention specialist, family and youth services provider, legal advocate. A minor in Women's Studies can contribute to success in a variety of fields including communication, counseling, criminology, education, health, journalism, law, politics, psychology, and applied sociology.

Students interested in attending graduate school will also find a minor in Women's Studies valuable for a variety of areas, including English, history, studies in the social sciences, and law school.

Minor–Women's Studies **15**

Required course: 3

WMST 200	Introduction to Women's Studies	3cr

Students receive approval for a specified course of study from the following: (1) 12

ANTH 350	Anthropology of Women	3cr
CRIM 450	Women and Crime	3cr
ENGL 225	Introduction to Literature by Women	3cr
ENGL 336	Language, Gender, and Society	3cr
ENGL 385	Advanced Women's Literature	3cr
FRNC 301	Portraits of Women in the French Novel	3cr
HIST 366	African-American Women	3cr
HIST 369	Women in America	3cr
HIST 390	History of Women–World Cultures	3cr
JRNL 250	Women and the Press	3cr
PHIL 232	Philosophical Perspectives on Love, Marriage, and Divorce	3cr
PSYC 379	Psychology of Human Sexuality	3cr
PSYC 411	Psychology of Women	3cr
RLST 245	Women and Religion	3cr
RLST 345	Women in the Bible	3cr
RLST 485	Selected Topics in Feminist Studies of Religion	3cr
SOC 251	Sociology of Human Sexuality	3cr
SOC 363	Sociology of Gender	3cr
SOC 427	Spouse Abuse	3cr
WMST 430	Gender, Sexuality, and Sport: A Feminist Perspective	3cr
WMST 482	Independent Study	var-1-3cr
XXXX 481	Special Topics (2) (offered within department)	var-1-3cr
XXXX 493	Internship (3)	var-1-3cr

(1) Students receive approval for a specified course of study from the above list of courses and, with permission from the director of Women's Studies, from selected women's studies courses that have been recently developed. Please see webpage *www.iup.edu/womens* for current information.

(2) Examples of XXXX 481 offered: ART 481 Maidens to Madonna, BTED 481 Women and Business, and WMST 481 Special Topics in Women's Studies.

The Eberly College of Business and Information Technology

Robert C. Camp, Dean
Julie A. Moreland, Assistant Dean
Rajendra K. Murthy, Assistant Dean
Cynthia L. Strittmatter, Assistant Dean
Website: *www.iup.edu/business*

In the spring of 1994, the College of Business was renamed to commemorate the generous commitment of the Eberly family through the Eberly Family Trust to the developmental needs of the college. Departments within the Eberly College of Business and Information Technology include Accounting, Finance and Legal Studies, Management, Management Information Systems and Decision Sciences, Marketing, and Technology Support and Training.

College Majors and Concentrations

- Accounting
- Business (Associate of Arts)
- Business Education
- Business Technology Support
- Finance
- Human Resource Management
- International Business
- Management (concentrations in Operations Management, General Management, and Entrepreneurship and Small Business Management)
- Management Information Systems
- Marketing

Bachelor of Science Degree

For those pursuing the Bachelor of Science degree, IUP's training will provide a broad liberal background in the behavioral sciences; a keen perception of the socioeconomic world in which we live and work; a foundation of general professional education for personally fruitful and socially useful careers in the varied fields of business; and an opportunity to obtain the specialized knowledge and skills essential to future occupational growth and advancement. There are eight Bachelor of Science degrees offered in business–Accounting, Business Technology Support, Finance, Human Resource Management, International Business, Management, Management Information Systems, and Marketing. Each program includes a variety of business and business-related courses designed to enrich the student's understanding of the modern business system.

A student may not pursue coursework in the Eberly College of Business and Information Technology with the expectation of graduating from the college unless he/she has been accepted as a degree candidate in the college.

Enrollment in all Eberly College of Business and Information Technology courses at the 300 and 400 level is restricted to students with junior or senior standing. All students, regardless of major or program affiliation, must meet course prerequisite requirements in order to enroll for a given course.

Our students may, in consultation with their advisors, plan their program of study to obtain a minor in an area of business specialization other than their major or a related area outside the Eberly College of Business and Information Technology.

Bachelor of Science in Education Degree

The college seeks to serve the needs of its students and the needs of business, industry, and education through its diverse programs. The Bachelor of Science in Education with a Business Education major is designed to prepare teachers for comprehensive high schools, area vocational-technical schools, and community colleges.

Associate of Arts Degree

Students who desire a two-year program that prepares them to enter the business world may elect to pursue the Associate of Arts degree program in Business specializing in Computer and Office Information Systems or the Associate of Arts degree program in Business specializing in Accounting.

Mission Statement

The paramount mission of the college is to provide a broad range of high-value undergraduate and graduate business programs for students seeking preparation for professional careers in business and business education and in nonprofit organizations. The college is especially committed to high-quality instruction. In addition, the college is committed to research activities which enhance the quality of instruction and contribute to the literature of businesses and to service activities which enhance the economic vitality of the region and provide linkages and opportunities for involvement of faculty and students with the business community.

A learning environment that includes opportunities for real-world exposure will be provided by the college. Students will be exposed to instructors with industry/consulting experience and will have opportunities for real-world exposure through well-developed internship and outreach programs.

The college will provide opportunities for cross-cultural exposure to all students. This will be achieved by the recruitment of a diverse student body, maintenance of a faculty with diverse cultural backgrounds, and provision of cross-cultural educational opportunities through a network of international exchange partners.

Students will be exposed to the latest information technology. The college will provide a high-tech, multimedia learning environment and student connections to the latest global information bank.

Vision Statement

The Eberly College of Business and Information Technology will be clearly recognized as having one of the premier business programs in the Commonwealth of Pennsylvania and surrounding states. This will be evidenced by the quality and breadth of its educational programs, the scholarly productivity of its faculty, and its service contributions to the regional business community.

AACSB International Accreditation

AACSB International–The Association to Advance Collegiate Schools of Business has accredited the undergraduate and graduate business degree programs offered by the Eberly College of Business and Information Technology. Accreditation shows that a school fulfills its mission, meets its objectives, and maintains the high standards set by AACSB International. The outcome is managers who know how to think, communicate, solve problems, and provide leadership in the global marketplace.

Eberly College of Business and Information Technology Academic Policies

Junior Standing

To be accepted for junior standing a business major must have:

- Accumulated 57 credits or more of academic credit
- Achieved a minimum 2.0 cumulative GPA
- Successfully completed the following courses: ACCT 201, 202, BLAW 235, BTED/COSC/IFMG 101, ECON 121, 122, ENGL 101, 202, MATH 115, 214, PSYC 101, and QBUS 215.

Business majors (except Business Education) who have not achieved junior standing are normally not permitted to enroll in 300- or 400-level courses in the Eberly College of Business and Information Technology. Those who have at least 57 credits with a 2.0 or better cumulative GPA but who have not completed one or more of the required courses listed above may, with permission, enroll on a one-time-only basis in up to 9 credits of 300-level Eberly College of Business and Information Technology courses.

Distribution Requirement
All Eberly College of Business and Information Technology majors (except Business Education) must take a minimum of 50 percent of their degree requirements (i.e., at least 60 credits) in nonbusiness* coursework.

Residency Requirement
All of our college's majors (except Business Education) must take a minimum of 50 percent of their required business* credits in IUP coursework. IUP credits earned by examination such as CLEP are counted toward IUP residency.

Restriction for Nonbusiness Majors
Students not majoring in business may count a maximum of 30 credits in business* coursework toward the 120-credit-degree minimum. Business credits in excess of 30 will be permitted only as credits beyond the 120 for graduation.

*For purposes of all policies above, "business" coursework consistes of all Eberly College of Business and Information Technology courses except IFMG 101, QBUS 215, and courses in Business Education (BTED). ECON 334 is also treated as a "business" course. "Nonbusiness" coursework consists of all BTED courses, IFMG 101, QBUS 215, and all non-Eberly College of Business and Information Technology courses except ECON 334.

Office of Academic Services

This office provides academic assistance to lower-division and probationary students. The staff includes student peer advisors and is directed by the associate dean of the Eberly College of Business and Information Technology. Peer advisors are available to answer questions on the processes related to registration, change of major, removal of incompletes, grade appeals, etc.

The office also houses the internship coordinator for the Eberly College of Business and Information Technology. IUP offers one of the largest business internships in Pennsylvania. Students can choose from a wide range of organizations to gain real-world experience while earning academic credit. The internship coordinator counsels students regarding internship prerequisites, procurement of the internship position, and scheduling to maximum benefit.

School of International Management

With the increasing demand for cross-cultural knowledge and international competence, Eberly College of Business and Information Technology has committed itself to a comprehensive strategy of providing future business leaders with a global foundation so they may become the world-class managers of tomorrow. The School of International Management offers a rich program that will strengthen business students and provide regional businesses with personnel who have a global perspective and internationally competitive management skills. This global perspective is provided to our students through broad exposure to cross-cultural coursework, integration of international concepts in selected business courses, direct exposure to individuals from other cultures, and a period of residency in another country.

Business Advisory Council

Eberly College's Business Advisory Council is a select group of more than a hundred business leaders. The council helps the college in its educational and service mission through counsel and feedback on matters such as program objectives, curriculum development, program development and promotion, and recruitment and retention of students and faculty.

Service Units

The **Management Services Group** is a confederation of consulting units instituted in 1991 by the Eberly College of Business and Information Technology in support of ongoing and start-up businesses in the Indiana county region. An integral objective of the group is to provide educational opportunities through an ongoing schedule of seminars and workshops for local businesses.

The **Indiana County Small Business Incubator** was established in 1986 as a joint effort between IUP, the Indiana County commissioners, and several county and state agencies. The Ben Franklin Partnership has provided operational capital and other support services since the incubator's inception. The incubator provides small start-up business with consultation, services, and space.

The **Small Business Institute (SBI)** was established to assist existing small businesses with various types of problem resolution. Through the SBI, undergraduate and graduate business students work under close supervision of faculty members to assist clients with accounting systems, market studies, computer system installation, business planning, and operations management.

The **Government Contract Assistance Program** helps area businesses identify and respond to federal and state requests for bids for products and services. The program is funded by the Department of Defense. Contract sales generated through this program add to the vitality of the local economy.

The **Center for Family Business** was designed to serve the unique needs of family-owned businesses. Issues such as performance compensation, establishment of an effective corporate board, conflict resolution, management of siblings and cousin teams, succession, and estate planning are critically important and virtually ignored by other educational forums. The center provides an educational program consisting of four meetings per year which focus on the topics outlined.

Workforce and Economic Development

The Office of Workforce and Economic Development provides for the training of Pennsylvania's workers for a growing economy. It offers a comprehensive collection of workforce skill development tools as well as a Workforce Learning Resource Center (WRLC) specifically designed to serve business and industry. Employers can tap into WLRC for training and grant funding initiatives, advice for planning job training to meet company goals and objectives, the latest research on best industry practices, complete on-line and instructor-led training courses, and rental facilities.

Department of Accounting

Website: *www.iup.edu/accounting*
Germain P. Kline, Chairperson; Anderson, Bradwick, Ghobashy, Joseph, Kline, Ponko, Pressly, Rahman, Robbins, Woan, Yerep

Accounting majors receive instruction in financial reporting system design and analysis, managerial accounting, taxation, and nonprofit accounting leading to career opportunities in public, industry, and government accounting.

Bachelor of Science–Accounting

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with ACCT prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr

BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major: Accounting (1) 27
Required Courses:

ACCT 303	Financial System Analysis	3cr
ACCT 304	Intermediate Accounting I	3cr
ACCT 305	Intermediate Accounting II	3cr
ACCT 311	Cost Accounting	3cr
ACCT 321	Federal Tax I	3cr
ACCT 401	Advanced Accounting	3cr
ACCT 431	Auditing	3cr

Controlled Electives: Two courses from the following: 6cr
ACCT 412, 422, 432, 441, 451, 461, 471, BLAW 336

Free Electives: (2) 5

Total Degree Requirements: 120

(1) Students must meet the grade prerequisite(s) listed in the course description section of this catalog prior to advancing to the next course.
(2) Distribution Requirement: All Eberly College of Business and Information Technology majors (except those majoring in Business Education) must take a minimum of 50 percent of their degree requirements (i.e., at least 60cr) in nonbusiness coursework.

Associate of Arts in Business Specializing in Accounting

The Associate of Arts in Business Specializing in Accounting is designed with these objectives:

- To provide business occupational education with the opportunity for specialization in the accounting area
- To enable the student to enter accounting positions in business and government
- To enable the student to upgrade his/her skills and knowledge to qualify for higher positions in business and government

After successfully completing the program, the student may apply for admission into a four-year baccalaureate program. Admission is not guaranteed. If accepted, all of the credits earned in the associate program will qualify towards the four-year degree program in accounting.

Associate of Arts–Business Specializing in Accounting

Liberal Studies: As outlined in the Liberal Studies section with the following specifications: 30
English: ENGL 101, 202
Fine Arts: 3cr
Health and Wellness: 3cr
Humanities: 3cr (1)
Mathematics: 4cr (2)
Natural Science: 4cr
Social Science: PSYC 101
Liberal Studies Electives: 3cr, ECON 122

Business Requirements 30
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
ACCT 303	Financial System Analysis	3cr
ACCT 304	Intermediate Accounting I	3cr
ACCT 311	Cost Accounting	3cr
ACCT 321	Federal Tax I	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
MGMT 310	Principles of Management	3cr
MKTG 320	Principles of Marketing	3cr

Total Degree Requirements: 60

(1) ENGL 121, HIST 195, or PHIL/RLST designated courses.
(2) MATH 115 is required in fulfilling four-year accounting degree curriculum requirements.

Minor–Accounting (1) 18

(for Business Majors in the Eberly College of Business and Information Technology only)

Required Courses: 12

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
ACCT 303	Financial System Analysis	3cr
ACCT 304	Intermediate Accounting I	3cr

Two courses from the following: 6

ACCT 305	Intermediate Accounting II	3cr
ACCT 311	Cost Accounting *or* ACCT 300 Managerial Accounting	3cr
ACCT 321/422	Federal Tax I/Federal Tax II	3cr/6cr
ACCT 431/432	Auditing/Forensic and Internal Auditing	3cr/6cr

(1) Minor course requirements must be completed with a minimum cumulative GPA of 2.0.

Department of Finance and Legal Studies

Website: ***www.iup.edu/financelegal***
Ibrahim Affaneh, Chairperson; Ames, Boldin, Chaudhry, Eastman, Gart, Ray, Troxell, Welker; and professor emeritus Strock

Finance Major

The Finance major, leading to a degree of Bachelor of Science, is designed to educate students who are interested in pursuing one of the many career opportunities within the areas of corporate and personal financial management, banking, insurance, other financial institutions, and investments.

The objective of the Finance program is to provide students with a broad base of knowledge, both theoretical and practical, as well as the analytical and technical skills necessary to build a successful career in an exciting and rapidly changing field.

Legal Studies

Legal Studies offers law and law-related courses with special emphasis on business applications. Legal Studies provides the student with a broad legal and ethical foundation necessary to a career in business or as preparation for pursuit of a law or law-related career.

Bachelor of Science–Finance (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with FIN prefix

College: Business Administration Core 33

Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major: Finance 27

Required Courses:

FIN 315	Financial Analysis Using Electronic Spreadsheets	3cr
FIN 320	Corporate Finance	3cr
FIN 324	Principles of Investments	3cr
FIN 360	Insurance and Risk Management	3cr
FIN 410	Financial Institutions and Markets	3cr
FIN 422	Seminar in Finance	3cr

Controlled Electives: 9cr

Three courses from the following: ACCT 305, 321, BLAW 336, 440, FIN 350, 420, FIN 424, 425, 481, 493, REAL 382

One course from the following: ECON 325, 334, 345, 356

Free Electives: (*) 5

Total Degree Requirements: 120

(*) Distribution Requirements: All Eberly College of Business and Information Technology majors (except those majoring in Business Education) must take a minimum of 50 percent of their degree requirements (i.e., at least 60cr) in nonbusiness coursework.

Minor–Finance **15**

(for Business Majors in the Eberly College of Business and Information Technology only)

Required Courses: 9

FIN 310	Fundamentals of Finance	3cr
FIN 320	Corporate Finance	3cr
FIN 324	Principles of Investments	3cr

Controlled Electives: Two courses from the following: 6

FIN 315	Financial Analysis Using Electronic Spreadsheets	3cr
FIN 360	Insurance and Risk Management	3cr
FIN 410	Financial Institutions and Markets	3cr
FIN 420	Investment Analysis	3cr
FIN 424	International Financial Management	3cr
REAL 382	Real Estate Fundamentals	3cr

Department of Management

Website: *www.iup.edu/management*

Prashanth N. Bharadwaj, Chairperson; Ali, Anderson, Ashamalla, Falcone, Gibbs, Mohamed, Orife, Osborne, Ryan, Slack, Soni, Wisnieski; and professors emeriti McGovern, Stevenson

Graduates holding the Bachelor of Science degree in Management may find employment opportunities in both the public and private sectors. Opportunities are expected to be especially plentiful in the services sector (e.g., retailing, health care, information technology, finance, and transportation), where these degrees will be valuable.

The department offers three separate degree programs: Management, Human Resources Management, and International Business.

The **Bachelor of Science degree in Management** offers three tracks in which students can choose to concentrate: General Management, Operations Management, and Entrepreneurship and Small Business Management.

General Management Track. While both management theory and application are taught in all of the department's majors, the track is distinguished by its emphasis upon the achievement of organized goals through the efforts of organization members.

Operations Management Track. Students in this track are well grounded in both theory and application, focusing on production, operations, quality issues, and inventory and capacity management.

Entrepreneurship and Small Business Management Track. Students taking this track will focus on creation and operation of a small business. This track is also for graduates who will be working in small businesses where the manager often must perform several managerial roles and manage several functions.

The Bachelor of Science in **Human Resource Management** prepares individuals in both the theoretical and applied aspects of managing the human resources function in organizations as a generalist or specialist. Students will gain expertise in areas such as job design, staffing, training, compensation, and performance appraisal.

The Bachelor of Science in **International Business** offers students an opportunity to acquire a thorough understanding of managing global operations in the contemporary business environment. In addition, students develop skills in a traditional functional area (finance, human resources, marketing). The combination of these two objectives enables students to successfully perform in today's competitive global economy.

Bachelor of Science–Management/General Management Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55

Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with MGMT prefix

College: Business Administration Core 33

Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major:

Required Courses: 21

ECON XXX	Any advanced 300-400-level ECON course	3cr
MGMT 300	Human Resource Management	3cr
MGMT 311	Human Behavior in Organizations	3cr
MGMT 351	International Management	3cr
MGMT 428	Seminar in Management	3cr
MGMT/MKTG 432	Business and Society	3cr
MGMT/ACCT	Any one Management course *or*	
ACCT 300	Managerial Accounting	3cr

Controlled Electives: (1) 6
Students must select two advanced Business electives from 300-level courses or above. No more than 3cr of MGMT 493 may be used to meet this requirement.

Free Electives: (2) 5

Total Degree Requirements: 120

(1) MGMT 275 will be considered an advanced business elective.
(2) General Management track majors are required to take a minimum of 50 percent of their degree requirements–i.e., a minimum of 60cr–in nonbusiness coursework. The first 9cr of Economics (ECON 121, 122, and the elective, ECON 330 or 334) will be considered "nonbusiness" for purposes of this calculation. Given the foregoing, a minimum of 5cr of free electives must be taken in nonbusiness coursework by most Management Department majors.

Bachelor of Science–Management/Operations Management Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with MGMT prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major:
Required Courses: 27

ACCT 300	Managerial Accounting	3cr
MGMT 300	Human Resource Management	3cr
MGMT 334	Quality Management	3cr
MGMT 437	Operations Management System	3cr
MGMT 438	Seminar in Operations Management	3cr

Controlled Electives:

One course from the following: ECON 330, 334	3cr
Three courses from the following: ACCT 311, BTST 342, IFMG 251, 350, MGMT 311, 400, 401, 481, 493, MGMT/MKTG 350, MGMT/MKTG 432, MKTG 420, 434, QBUS 380, 401, SAFE 101	9cr

Free Electives: (1) 5

Total Degree Requirements: 120

(1) Operations Management track majors are required to take a minimum of 50 percent of their degree requirements–i.e., a minimum of 60cr–in nonbusiness coursework. The first 9cr of Economics (ECON 121, 122, and the elective, ECON 330 or 334) will be considered "nonbusiness" for purposes of this calculation. Given the foregoing, a minimum of 5cr of free electives must be taken in nonbusiness coursework by most Management Department majors.

Bachelor of Science–Management/Entrepreneurship and Small Business Management Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with MGMT prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major:
Required Courses: 27

ACCT 300	Managerial Accounting	3cr
MGMT 275	Introduction to Entrepreneurship	3cr
MGMT 325	Small Business Management	3cr
MGMT 403	Small Business Planning	3cr
MGMT 492	Small Business/Entrepreneurship Internship	6cr
Major Area Restricted Electives		9cr

Free Electives: (1) 5

Total Degree Requirements: 120

(1) Entrepreneurship and Small Business Management track majors are required to take a minimum of 50 percent of their degree requirements–i.e., a minimum of 60cr–in nonbusiness coursework. The first 9cr of Economics (ECON 121, 122, and the elective, ECON 330 or 334) will be considered "nonbusiness" for purposes of this calculation. Given the foregoing, a minimum of 5cr of free electives must be taken in nonbusiness coursework by most Management Department majors.

Bachelor of Science–Human Resources Management

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with MGMT prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr

MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major: Human Resource Management 18
Required Courses:

ECON 330	Labor Economics	3cr
MGMT 300	Human Resource Management	3cr
MGMT 305	Organizational Staffing	3cr
MGMT 400	Compensation Management	3cr
MGMT 401	Management Development and Training	3cr
MGMT 402	Seminar in Human Resource Management *or* MGMT 428 Seminar in Management	3cr

Controlled Electives: Select three courses from the following: 9
ACCT 300, BTST 342, ILR 480, MGMT/MKTG 432, MGMT 311, 334, 351, 406, 452, 493, PSYC 390, 411, SAFE 101, SOC 340, 348, 362

Free Electives: (1) 5

Total Degree Requirements: 120

(1) Human Resources Management majors are required to take a minimum of 50 percent of their degree requirements–i.e., a minimum of 60cr–in nonbusiness coursework. The first 9cr of Economics (ECON 121, 122, and 330) will be considered "nonbusiness" for purposes of this calculation. Given the foregoing, a minimum of 5cr of free electives must be taken in nonbusiness coursework by most Management department majors.

Bachelor of Science–International Business

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Humanities: PHIL 222
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101, ANTH 110/ANTH 211/GEOG 104/PLSC 101
Liberal Studies Electives: 9cr. BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with MGMT prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Foreign Language Requirement (1) 0-9

Foreign Residency Requirement (2)

Major: International Business
Required Courses: 12

ECON 345	International Trade	3cr
MGMT/MKTG 350	International Business	3cr
MGMT 454	International Competitiveness	3cr
MGMT 459	Seminar in International Management	3cr

Concentration area courses: (select one concentration; choose three of the four courses in the chosen area) 9

Finance Concentration:

FIN 320	Corporate Finance	3cr
FIN 324	Principles of Investments	3cr
FIN 410	Financial Institutions and Markets	3cr
FIN 424	International Financial Management	3cr

Human Resources Management Concentration:

MGMT 300	Human Resource Management	3cr
MGMT 400	Compensation Management	3cr
MGMT 402	Seminar in Human Resource Management	3cr
MGMT 452	Comparative Management	3cr

Marketing Concentration:

MKTG 321	Consumer Behavior	3cr
MKTG 420	Marketing Management	3cr
MKTG 421	Marketing Research	3cr
MKTG 430	International Marketing	3cr

Free Electives: 2-11

Total Degree Requirements: 120

(1) Candidates must demonstrate a conversational proficiency in a foreign language. This requirement may be met by: (a) successful completion of 9 intermediate-level credits in a specific language, or (b) successful completion of an exemption or credit examination in lieu of the above. A foreign student, registered as such at IUP, whose acquired native language is other than English and who demonstrates an acceptable proficiency in English, can meet the foreign language requirement by successful completion of an exemption examination in the acquired native language.

(2) Candidates must document one semester of foreign residence (minimum of three months). Normally, the foreign residency requirement will be met in conjunction with a work experience, internship, or student exchange. A substitute cross-cultural experience may be permitted with the recommendation of the academic advisor. The foreign language requirement is a prerequisite to the foreign residency requirement.

Minor–Management **15**

(for Business Majors in the Eberly College of Business and Information Technology only)

Required Courses: 9

ILR 480	Principles and Practices of Collective Bargaining	3cr
MGMT 300	Human Resource Management	3cr
MGMT 401	Management Development and Training	3cr

Two courses from the following: 6

ECON 330	Labor Economics	3cr
MGMT 402	Seminar in Human Resource Management	3cr
SAFE 101	Introduction to Occupational Safety and Health	3cr

(1) Minor course requirements must be completed with a minimum cumulative GPA of 2.0.

Department of Management Information Systems and Decision Sciences

Website: *www.iup.edu/mis-desci*
Louise B. Burky, Chairperson; Albohali, Nahouraii, Pierce, Rodger, Solak, Wang, Wibowo; and professor emeritus Shildt

Management Information Systems prepares students for careers in computer-based information systems in organizational environments. Newer areas such as networking, cybersecurity, and user/manager involvement in the global business environment are integrated with the traditional skills of programming, analysis and design, database development, various architectures, and application development. Microprocessor tech-

nology, the mainframe environment, and client server applications are included, as well as an emphasis on business computing issues such as profitability, budgeting, collaboration, and project management. These adhere to standards for a balanced curriculum as promulgated by the Association for Information Systems (AIS), the technology-accrediting arm of the Association to Advance Collegiate Schools of Business (AACSB). AIS now comprises organizations such as AITP, SIMS, TIMS, ORSA and ICIS.

Decision Sciences provides students with a knowledge of statistical and quantitative methods used to enhance the business decision process. The methodologies include linear programming, forecasting, simulation, stochastic process, queuing, and network models.

The department creates a learning process that instills in its graduates respect, integrity, excellence, and a commitment to lifelong learning. Internship experiences facilitate the student's entry into full-time employment in a rapidly changing technological environment.

The department welcomes minors for students who are majoring in other business programs. The minor program offers other business majors a technical enhancement to their area of interest, a necessity for today's business manager.

Bachelor of Science–Management Information Systems (*)

Liberal Studies: As outlined in Liberal Studies section 55
with the following specifications:
Mathematics: MATH 115 (1)
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC 101, ECON 122, MATH 214 (2), no courses with IFMG prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major: Management Information Systems 27-28
Required Courses:

IFMG 210	Introduction to Front-End Business Applications	3cr
IFMG 230	Introduction to Back-End Business Applications *or*	3cr
COSC 220	Applied Computer Programming	4cr
IFMG 250	Business Systems Technology	3cr
IFMG/COSC 352	LAN Design and Installation	3cr
IFMG 450	Data Base Theory and Practice	3cr
IFMG 460	Analysis and Logical Design	3cr
IFMG 475	Project Management and Implementation	3cr

Controlled Electives: 6cr
Select any two courses from the following categories:
Software Development: COSC 110, 300, 304, 310, COSC 344, 345, 362, IFMG 330
Networks and Cybersecurity: COSC 316, CRIM 321, 323, COSC/IFMG 354, IFMG 368, 382, 480
Database and Decision Support: IFMG 455, 465, QBUS 380, 401, 481
Special Topics, Internships, and Seminars: IFMG 481, 485, 493

Free Electives: 4-5

Total Degree Requirements: 120

(*) Distribution Requirement: All Eberly College of Business and Information Technology majors (except those majoring in Business Education) must take a minimum of 50 percent of their degree requirements (i.e., at least 60cr) in nonbusiness coursework.
(1) MATH 115 or 121 or 123.
(2) MATH 214 or 216 or 217.

Minor–Management Information Systems **15**

(for Business Majors in the Eberly College of Business and Information Technology only)

Required Courses:

IFMG 210	Introduction to Front-End Business Applications	3cr
IFMG 230	Introduction to Back-End Business Applications	3cr
IFMG 300	Information Systems: Theory and Practice	3cr (1)

Controlled Electives: (2) 6cr
Select 6cr from any IFMG courses except IFMG 101 and 201

(1) IFMG 300 is both a core course and requirement for the minor.
(2) MIS minor should include a concentration in all IFMG courses. As a result, QBUS courses will not be counted towards the minor.

Department of Marketing

Website: ***www.iup.edu/marketing***
Vincent P. Taiani, Chairperson; Batra, Behko, Garg, Krishnan, LaRosa, Sciulli, Sharma

The Bachelor of Science in Marketing program is designed to prepare its majors for a wide range of careers in private and public sector marketing, including sales management, retailing, brand management, advertising, distribution and logistics, customer relationship management, marketing research, public relations, marketing for nonprofit organizations, e-commerce, and international marketing. The program focuses on integrating technical knowledge in all areas of marketing with analytical and communication skills to prepare students for the challenges of the global competition in the twenty-first century.

Bachelor of Science–Marketing (*)

Liberal Studies: As outlined in Liberal Studies section 55
with the following specifications:
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with MKTG prefix

College: Business Administration Core 33
Required Courses:

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Major: Marketing 27
Required Courses:

MKTG 321	Consumer Behavior	3cr
MKTG 420	Marketing Management	3cr

MKTG 421	Marketing Research	3cr
MKTG 422	Seminar in Marketing	3cr
Controlled Electives: Five courses from the following: MGMT/MKTG 350, MKTG 430, 431, 432, 433, 434, 435, MKTG 436, 437, 438, 439, 440, 441, 481 (3cr max), MKTG 482 (3cr max), 493 (3cr max), a maximum of two (6cr) senior-level non-MKTG prefix courses from complementary areas (such as ACCT, COMM, ECON, GEOG, JRNL, IFMG, MATH, MGMT, PSYC, etc.) to meet individual student program and career preparation needs (with advisor permission)		15cr

Free Electives: (Maximum of 5cr in nonbusiness courses) 5

Total Degree Requirements: 120

(*) If the student graduates with no more than a maximum of 120cr, no more than 50 percent, or 60cr, can be business-related courses. BTED/COSC/IFMG 101, QBUS 215, and all ECON courses are considered nonbusiness.

Minor–Marketing **15**

(for Business Majors in the Eberly College of Business and Information Technology only)

Required Courses:

MKTG 320	Principles of Marketing	3cr
MKTG 321	Consumer Behavior	3cr
MKTG 420	Marketing Management	3cr
Two additional MKTG courses		6cr

Department of Technology Support and Training

Website: ***www.iup.edu/technologysupport***

Linda F. Szul, Chairperson; Hemby, McPherson, Moore, Rowell, Wilkie, Willis, Woodland; and professors emeriti Beaumont, Bianco, Patterson Cordera, Mahan, Moreau, Morris, Polesky, Sheeder, Steigmann, Woomer

This department offers the following degrees: Bachelor of Science in Education with a Business Education major, Bachelor of Science with a major in Business Technology Support, and a two-year Associate of Arts degree in Business with a Computer and Office Information Systems emphasis.

Business Technology Support Major (Bachelor of Science)

The Business Technology Support majors are equipped to be versatile professionals. The program encompasses the knowledge, skills, and attitudes required of a professional who provides support to users of information technology to maintain and improve overall organizational effectiveness. This program places emphasis on understanding how technology contributes to individual and work group performance and to behavioral factors, such as communications, ergonomics, training, and change.

The curriculum is designed to challenge students to understand their dynamic role from both an organizational and individual viewpoint. Graduates of the program can pursue career paths such as website managers, technology trainers, help desk administrators, e-business designers, local area network administrators, and documentation/curriculum developers as they relate to enterprise-wide solutions, support services, and technology training.

The department welcomes minors. A minor provides Business majors with the opportunity to complement their major with business technology support courses.

Business Education Major (Bachelor of Science in Education)

The IUP Business Education program is accredited by the National Council for Accreditation of Teacher Education (NCATE). The program leads to the degree of Bachelor of Science in Education and Pennsylvania teacher certification in business, computer, and information technology for grades K-12.

The program in business education is dedicated to preparing teachers who will be qualified and certificated to instruct students to live and work in a business environment. The business education program recently (2000) received a national honor as the outstanding program in the nation by the Association for Career and Technology Education.

The major is intended for those interested in teaching in public elementary, junior/middle, and senior high schools, vocational-technical schools, private business schools, or industry. Students have a choice of the following certification areas: business, computer, and information technology; or marketing education.

A student must apply to the dean of the College of Education and Educational Technology to receive an initial certificate to teach in Pennsylvania's public schools. Certification to be a business education teacher is approved by the dean of the College of Education and Educational Technology when a student has met all the requirements in professional education, Liberal Studies, and business education major courses. Students must attain a 3.0 overall GPA in order to student teach. See details of the IUP 3-Step Process in the section "Admission to Teacher Education and Certification" in the College of Education and Educational Technology section of this catalog. The candidate for certification must also complete successfully the core battery and specialization sections of the National Teachers' Examination.

All students who take a business education major complete a professional education core and must also meet the standards set by the College of Education and Educational Technology (see Department of Technology Support and Training Student Handbook, page 8).

Before graduation, each business education student must document completion of 500 hours of business work-related experience. This experience can be acquired during summer vacations and in offices on the campus during the regular school term. Previous documented experience may also be counted.

Bachelor of Science in Education–Business Education (*) (1)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: MATH 101 or higher
Natural Science: Option 1 recommended
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 6cr, ECON 122, MATH, no courses with BTED prefix

College: Professional Education Sequence: (2) 29

BTED 311	Methods in Business and Information Technology I	3cr
BTED 312	Methods in Business and Information Technology II	3cr
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 102	Educational Psychology	3cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr

Major:		40
Required Courses:		
Business Education Core		22cr
ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTED 309	Keyboarding for Educators	1cr
BTST 105	Introduction to Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MKTG 320	Principles of Marketing	3cr
Select from one of the following two certification options:		
Business, Computer, and Information Technology Certification:		18cr
BTED/COSC/IFMG 101 Microbased Computer Literacy		3cr
BTED 370	Technology Applications for Education	3cr
BTST 273	Hardware Support Solutions	3cr
BTST 310	Telecommunications	3cr
BTST 383	Microcomputer Software Solutions	3cr
BTST 401	Web Design	3cr
Marketing Education Certification: (3)		18cr
BTED/COSC/IFMG 101 Microbased Computer Literacy		3cr
DEDU 413	Methods and Evaluation in Marketing Education	3cr
MKTG 433	Advertising	3cr
MKTG 435	Professional Selling and Sales Management	3cr
MKTG 436	Retail Management	3cr
MKTG XXX	Marketing Elective (advisor approved)	3cr
(#) **Total Degree Requirements:**		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) According to Pennsylvania Commonwealth guidelines, students must be certified in K-12 and not in separate areas. An exception is Marketing Education.

(2) Students electing for Marketing Education certification are not required to take BTED 312.

(3) Students can transfer credit from another regionally accredited institution.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Bachelor of Science–Business Technology Support

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 115 **Social Science:** ECON 121, PSYC 101 **Liberal Studies Electives:** 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with BTST prefix		55
College:		33
Required Courses: Business Administration Core		
ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 310	Principles of Management	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr
Major:		30
Required Courses:		
BTST 273	Hardware Support Solutions	3cr
BTST 310	Telecommunications	3cr
BTST 311	Training Methods in Business and Information Technology Support	3cr
BTST 383	Microcomputer Software Solutions	3cr
BTST 411	Technology Support Development	3cr
BTST 413	Enterprise Technology Support	3cr
BTST 480	Seminar in Business Technology Support	3cr
COSC/IFMG 352 LAN Design and Installation		3cr
Controlled Electives: (select two of the following):		6cr
BTED 201	Internet and Multimedia	3cr
BTST 401	Web Design	3cr
BTST 402	Website Development and Administration	3cr
BTST 493	Internship	3cr
COSC 110	Problem Solving and Structured Programming	3cr
COSC 304	Interactive Internet Programming with Java	3cr
Free Electives: (1)		2
Total Degree Requirements:		120

(1) Business Technology and Support majors are required to take a minimum of 50 percent of their degree requirements–i.e., a minimum of 60cr–in nonbusiness coursework. ECON 121 and 122 will be considered "nonbusiness" for purposes of this calculation.

Tech Prep

The Technology Support and Training Department has signed articulation agreements with high schools throughout Western Pennsylvania. Graduates of these approved programs have the opportunity to schedule advanced courses and develop higher-level skills to enhance employment options. For additional information, contact the department secretary at 724-357-3003.

Associate of Arts Degree

Offering specialization in computer and office information systems (COIS), the Associate of Arts Degree in Business is designed to be a two-year curriculum with these objectives:

1 To provide business occupational education with the opportunity for specialization in COIS.

2 To enable the student to enter COIS positions in business and government.

3 To enable the student to upgrade his/her skills and knowledge to qualify for higher positions in business and government.

4 To provide the foundation to continue education in a four-year degree program. This program is offered at the Indiana campus only.

Associate of Arts–Business–Computer and Office Information Systems Specialization

Liberal Studies: As follows: **English:** ENGL 101 **Fine Arts:** one course from list **Humanities:** HIST 195 and one course from LBST list of Philosophy and Religious Studies **Mathematics:** MATH 115 or 121 **Social Science:** PSYC 101 and one course from non-western cultures LBST Social Science list **Liberal Studies Electives:** (1) BTED/COMM/COSC/IFMG/LIBR 201, COSC/IFMG 101, ECON 122		31
Major: Business (Associate) Core		12
Required Courses:		
ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr

BTST 105	Introduction to Business	3cr
BTST 221	Business Technical Writing	3cr

Other Requirements: Computer and Office Specialization 12

BTED 250	Electronic Office Procedures	3cr
BTED 273	Word Processing Applications	3cr
IFMG 205	Foundations of MIS	3cr
	Advisor-Approved Elective	3cr

Free Electives: 6

Total Degree Requirements: 61

(1) Students cannot repeat the same prefix in this category.

Minor–Business Technology Support **15**

(for Business Majors in the Eberly College of Business and Information Technology only)

Required Courses:

BTST 273	Hardware Support Solutions	3cr
BTST 383	Microcomputer Software Solutions	3cr
BTST 310	Telecommunications	3cr
BTST 411	Technology Support Development	3cr
BTST 413	Enterprise Technology Support	3cr

Business Minors for Eberly College of Business and Information Technology Students

Minors in Accounting, Finance, Human Resources Management, Management Information Systems, Marketing, and Business Technology Support are offered only for students who are majoring in one of the other majors in the Eberly College of Business and Information Technology and assume the common 36-credit Business core.

Minor in Business Administration for Nonbusiness Majors

The Eberly College of Business and Information Technology offers, as a joint effort of its departments, a 21-credit minor for nonbusiness majors. The program is designed to give nonbusiness majors a general background in business with 12 credits of prescribed Liberal Studies courses and 20 credits of required business courses.

Minor–Business Administration (for nonbusiness majors) **21**

Prescribed Liberal Studies:
Mathematics: MATH 214 or 217
Social Science: ECON 121
Liberal Studies Electives: BTED/COSC/IFMG 101, ECON 122

Required Business Courses: 15

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
FIN 310	Fundamentals of Finance	3cr
MGMT 310	Principles of Management	3cr
MKTG 320	Principles of Marketing	3cr

Other Requirements: 6
Two of the following courses with advisement:

BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 330	Production and Operations Management	3cr

The College of Education and Educational Technology

John W. Butzow, Dean

Thomas J. Meloy, Associate Dean for Teacher Education

Edward W. Nardi, Associate Dean for Academic Affairs

Lloyd Onyett, Assistant Dean for Information and Communications Technology

Website: ***www.iup.edu/education***

Since its founding in 1875 as the Indiana Normal School, Indiana University of Pennsylvania has been widely recognized for its excellent programs in teacher education. Although the scope of the university has been greatly expanded, the College of Education and Educational Technology continues the tradition of preparing outstanding teachers to serve the students of the commonwealth and the nation.

The college comprises eight multidimensional departments which offer twenty-five programs leading to the bachelor, master, and doctoral degrees. The departments in the college are Adult and Community Education, Communications Media, Counseling, Educational and School Psychology, Foundations of Education, Professional Studies in Education, Special Education and Clinical Services, and Student Affairs in Higher Education.

The college is well known for its opportunities to practice "hands-on" learning. Over five hundred students enjoy early field experiences each semester. In addition, the college places about five hundred student teachers each year in public schools which provide a full semester of supervised teaching experience. Students are encouraged to take advantage of a full range of activities offered in urban, rural, and multicultural settings.

Practical experiences are important for students majoring in communications media. Students in this program are prepared in one of the largest internship programs in Pennsylvania. They select supervised work experiences with agencies throughout the commonwealth and neighboring states; many students are so successful in their internship placements, they are hired immediately upon graduation.

Mission Statement

The College of Education and Educational Technology provides leading-edge development and growth opportunities for students and professionals in education and allied fields.

Vision Statement

The college will be known nationally and internationally for the preparation of practitioners in education to serve a global society. The college will be prepared to serve a clientele of graduate and undergraduate scholars from increasingly diverse backgrounds. Teacher scholars will apply diversified delivery systems to instruction, research, and service to meet the contemporary societal challenges.

Degrees, Majors, Minors, and Concentrations

Bachelor of Science degree – Communication Media

Bachelor of Science in Education degree

Elementary Education
Early Childhood Education/Pre K–6th Grade
Foreign Language and International Studies for Elementary Education (Spanish)
Special Education
Speech-Pathology and Audiology
Education of Exceptional Persons
Education of Deaf and Heard of Hearing Persons
Vocational/Technical Education

Minors – Communication Media, Educational Technology, Educational Psychology

Concentrations – Mathematics, Reading

K-12 and Secondary Education Programs

Eberly College of Business and Information Technology – Business Education
College of Fine Arts – Art Education, Music Education
College of Health and Human Services – Family and Consumer Sciences Education, Health and Physical Education
College of Humanities and Social Sciences – English, French, Social Studies (Anthropology, Citizenship, Economics, Geography, History, Political Science, Sociology), and Spanish
College of Natural Sciences and Mathematics – Biology, Chemistry Earth and Space Science, General Science, Mathematics, and Physics

Graduate Programs in the College of Education and Educational Technology

Master of Education degree – Early Childhood Education, Education of Exceptional Persons, Educational Psychology, Elementary and Middle School Mathematics Education, Literacy, Master's in Education, Mathematics, School Counseling, Business Education/Workforce Development

Master of Arts degree – Adult and Community Education, Adult Education and Communications Technology Track, Community Counseling, Student Affairs in Higher Education, Teaching English, Teaching English to Speakers of Other Languages

Master of Science degree – Speech-Language Pathology

Graduate Level Certification – Reading Specialist, School Psychologist, Elementary/Secondary Principal, Superintendent's Letter of Eligibility

Doctor of Education degree – Administration and Leadership Studies, Curriculum and Instruction, School Psychology

Information describing master's and doctoral programs in education may be found in the current issue of the *Graduate School Catalog*.

Associations and Organizations

- American Association of Colleges of Teacher Education (AACTE)
- American Association of Health and Physical Education (AAHPE)
- American Society for Training and Development (ASTD)
- American Speech-Language Hearing Association (ASHA)
- Association for Childhood Education International (ACEI)
- Council for Exceptional Children (CEC)
- Council of Education of the Deaf (CED)
- National Association for the Education of Young Children (NAEYC)
- National Association of School Psychologists (NASP)
- National Broadcasting Society (NBC)
- National Council for Accreditation of Teacher Education (NCATE)
- National Council of Social Studies
- National Council of Teachers of Mathematics
- National Council of Teachers of English
- Pennsylvania Department of Education
- School Psychology Association Network (SPAN)
- Teacher Education Council of State Colleges and Universities (TECSCU)

Degree Requirements

All bachelor degree candidates must satisfactorily complete a minimum of 120 credits to include all liberal studies and major requirements. All

Bachelor of Science in Education degree candidates must also complete the IUP 3-Step Process for Teacher Education as defined by Chapter 354 of the Pennsylvania Education Code and in accordance with university policies.

Change of Major to a Teacher Education Program

Currently enrolled students who wish to make application for a teacher education program may get an application for a Change of Major from the college dean's office or department that houses the major. Secondary education program are housed in the college of their respective discipline. A minimum cumulative GPA of 3.0 is required for all education majors by Chapter 354 of the Pennsylvania Education Code.

Students wishing to be considered as Elementary Education, Early Childhood Education/PreK-Grade 6, and Special Education majors must also submit with their application documentation of their successful completion of Praxis I (PPST). Applications will be reviewed three times a year beginning the third Monday of September, February, and June. Students approved for a Change of Major will be notified in writing within 14 business days. Students admitted to the new major will be advised by a faculty advisor in the major and permitted to register for major courses during the next registration period.

Change of Major applications must be submitted to the appropriate academic department chairperson. Applications are reviewed by the chairperson and/or teacher education coordinator. The recommendation is then forwarded to the college dean's office for final review and action. Students must also comply with the IUP 3-Step Process to teacher education as appropriate to their current status. This information can be viewed on the College of Education and Educational Technology website at *www.iup.edu/education*.

IUP 3-Step Process for Teacher Education

Step 1 Application for Teacher Education

Eligibility requirements for enrolling in the professional education sequence which includes EDEX 300/301, EDUC 242, 342, 442, EDSP 477.

- A minimum of 48 credits and a 3.0 cumulative GPA
- Successful completion of Praxis I Examinations (PPST) with the minimum score established by the PDE
- Completion of the following courses as defined by the major with a grade of C or higher: ENGL 101, 121*, EDSP 102, COMM 103*, 6 credits in Math*
  *See major for specific program requirement
- Act 34 and Act 151 Clearances
- Completion of speech, hearing, and TB test
- Satisfactorily completed essay
- Reviewed evidence of starting an electronic portfolio to include CD and portfolio evaluation
- Advisor's recommendation and signature

IUP education majors are encouraged to take the Praxis I as soon as they are prepared for the exams. Extensive review materials and specialized workshops are available. Students who are not successful after two attempts are required to meet with the Associate Dean for Teacher Education for a consultation.

Step 2 Application for Student Teaching

Eligibility requirements for student teaching placement:

- Successful completion of Step 1
- A 3.0 cumulative GPA
- Successful completion of Praxis II Examination. Scores must meet PDE requirements at the time the candidate makes application for teacher certification
- Act 34 and Act 151 (annual update required)
- Completion of all major courses, methods courses, and liberal studies sciences courses with a grade of C or higher
- Updated electronic portfolio review to include CD and portfolio
- Advisor's recommendation and signature

Step 3 Application for Graduation and Pennsylvania Teacher Certification

Eligibility requirements for graduation.

- Successful completion of Step 2
- Successful completion of Student Teaching
- A 3.0 cumulative GPA
- Final approval of electronic portfolio to include CD and portfolio evaluation
- Completed application for graduation
- Completed application for Pennsylvania Teacher Certification
- The recommendation of your academic advisor
- The recommendation of the IUP Teacher Certification Officer

Appeal Provision

A student who believes that any requirement of this policy has been inequitably applied or that he/she merits special consideration may appeal through the proper sequence of channels: academic advisor, chairperson, and finally the associate dean for Teacher Education. Appeals must be made before the end of the next regular academic semester following the application.

Every effort should be made to resolve the appeal through the described process. If, at the conclusion of the appeals process, the student is still in disagreement with the findings, the student may request review before the Teacher Education Appeals Committee of the Academy for Teacher Preparation. The committee will be composed of three members representing the faculty of the Academy for Teacher Education Preparation, the Teacher Education Coordinator's Council, and senior teacher preparation students.

To initiate an appeal, the student must file a form obtained at the Office of the associate dean for Teacher Education. Appeals will be heard only during the regular academic semester. The student will be expected to submit written documentation of his/her complaint about the process of review for continuation or eligibility in the teacher education program. The committee will review the materials and make its recommendation to the associate dean for Teacher Education. A final decision rests with the associate dean for Teacher Education who is the certification officer.

Federal Higher Education Act Title II

The Federal Higher Education Act Title II requires all institutions that educate teachers to publish annually the passing rates on Praxis tests for their Program Completers. The annual report for IUP can be found at the following website: *www.iup.edu/education*.

Student Teaching

Student teaching is designed to be the culminating learning experience for prospective teachers. Student teachers practice teaching and managing a classroom under the supervision of a full-time master teacher in an off-campus center. A university supervisor is assigned to work with individual student teachers and their cooperating master teachers. To gain admission to student teaching, applicants must have achieved a minimum cumulative GPA of 3.0. In addition, students must complete all requirements of the 3-Step Process and should complete all other components of the Liberal Studies and professional core before student teaching. Some programs have standards above the minimum 3.0 cumulative GPA and/or course grade expectations above the minimum grade of C. Each student should counsel with his/her advisor for information about specific program requirements related to qualification for student teaching. He or she should also check the College of Education and Educational Technology web pages regularly for the most current information (*www.iup.edu/education*).

Student teaching is the capstone experience in the program of the emerging professional educator. Student teaching assignments are the responsibil-

ity of the university. To avoid conflicts of interest, students will normally not be assigned to districts from which they graduated or to districts in which they permanently reside or to schools in which an immediate family member is employed. Exceptions to this policy may be made in large urban school districts such as Pittsburgh and Philadelphia where there are numerous elementary and secondary schools so avoidance of assigning student teachers to their "home school area" can be achieved. Any exception to this policy must be approved by the dean, College of Education and Educational Technology, or his/her designee. All official policies and procedures, regarding the student teaching experience, are included as part of the College of Education and Educational Technology's official Handbook for Student Teaching. Copies of the handbook are available for purchase at the Coop Bookstore. An electronic version of the handbook is available for download as part of the Teacher Education website at *www.iup.edu/education*.

Field Placements

The Office of Teacher Education determines final placements for all fieldwork conducted in the public schools. In accordance with university policy, students must be officially enrolled in the course for which the fieldwork is being done. Students entering a classroom without being duly registered are in violation of university policy and may place themselves at risk legally. Therefore, registration for all field placements is mandatory and requires payment of a $50 placement fee.

All official policies and procedures for field experiences are included as part of the Field Experience I and II handbook, which can be purchased at the local Copies Now store. The handbooks are also available for download as part of the Teacher Education website at *www.iup.edu/education*.

International Student Teaching Opportunities

IUP students enrolled as teacher education majors in all certification areas are eligible to participate in a half-semester student teaching program. Students participate in this program during the semester in which they register to student teach, either in the fall or the spring. They are assigned to a teaching site in the United States for the first half of the semester. The second half of the student teaching experience is completed in an overseas site. The program provides students with teaching experiences in one of the following countries: Copenhagen, Denmark; London, England; Worcester, England; Paris, France; Malahide, Ireland; and Gronigen, The Netherlands. Teaching assignments are made for all certification areas.

Students wishing to participate in this program must have a cumulative GPA of 3.0 or better and a GPA of 3.0 or better in the professional core subjects and the major. The student teacher must demonstrate competency in effective classroom teaching practices, receiving a minimum grade of B in the midsemester evaluation. Upon approval of the IUP supervisor, the international student teaching assignment is confirmed.

In addition to IUP tuition and fees, students must pay a study abroad fee of $500. Travel costs, personal expenses, and living accommodation costs for room and board (paid to the host family) are the responsibility of the student. Living accommodations are arranged with host families near teaching sites.

Applications may be made anytime; however, preference is given to students who submit application materials one year before they student teach. Interviews for tentative acceptance will be scheduled with the international Student Teaching Committee two semesters prior to student teaching. For more information, contact the Department of Professional Studies in Education at 724-357-2400.

Removal of a Student Teacher from a Student Teaching Placement

The policy for the removal of a student teacher from a student teaching placement can be found at the website *www.iup.edu/education*.

Certification Requirements

College of Education and Educational Technology requirements for recommendation for certification as a teacher, as well as the intermediate steps leading to commonwealth certification, are outlined in the 3-Step Process. The requirements include:

- a minimum grade of C in all professional education courses and a 3.0 cumulative GPA
- review and recommendation by the major academic advisor indicating completion of all university and departmental teacher education requirements
- completion of student teaching with a minimum grade of C
- successful completion of the Praxis I, Praxis II, and Praxis Specialty Area Tests
- successful completion of PDE Form 430
- competency in working with students with special needs (Special Education)
- completion and submission of electronic portfolio, including CD and portfolio evaluation

Applications for certification cannot be processed until the student completes the B.S.Ed. degree or its equivalent.

Commonwealth Requirements for Teacher Certification

(Excludes Vocational Instructional Certification. See "Center for Vocational Personnel Preparation" in the School of Continuing Education section of this catalog.)

Certification standards for commonwealth public school teachers are established by the Pennsylvania Department of Education (PDE) and the Pennsylvania Board of Education. The academic advisor of the student's major department must verify for the dean of the College of Education and Educational Technology that all academic requirements are met. The student's name is then placed on the graduation list.

Applicants for certification must sign a statement attesting to United States citizenship. Applicants who are not citizens must have an immigrant visa which permits them to seek employment within the United States, and they must have declared the intent to become citizens of the United States. Applicants must also submit a physical examination report and certify they are not in the habit of using narcotic drugs in any form, do not use excessive amounts of intoxicating beverages, are not currently under indictment by legal authorities, and have not been convicted of a criminal offense. Applicants who are unable to meet one or more of these requirements must submit a full explanation with the application. In addition, they must attest to the fact that all information supplied in the application is accurate.

The Pennsylvania Department of Education issues an Instructional I certificate to beginning teachers upon graduation from and recommendation by the College of Education and Educational Technology.

Dual Certification

The departments of Professional Studies in Education and Special Education and Clinical Services have developed guidelines for students wishing to complete academic requirements for a second certification.

Students majoring in Elementary Education may do this in Education of Deaf and Hard-of-Hearing Persons or Education of Exceptional Persons; Majors in Education of Deaf and Hard-of-Hearing Persons or Education of Exceptional Persons may do this in Elementary Education.

Application forms for dual certification are available in the offices of the two departments. Applications must be approved by the student's advisor and by the department chairperson or assistant chairperson of both departments. Students are advised that the completion of requirements will take approximately two extra semesters, and they may wish to explore the possibility of completing the second certification at a graduate level.

Professional Certification Application Fee

All applicants for Teacher Certification or Professional Education Certifications from the Commonwealth of Pennsylvania through IUP will be assessed a $75 application fee. Applicants for add-on and second certifications processed through IUP will also be assessed this fee. Requests for processing out-of-state teacher certification applications will be assessed a $35 processing fee per request.

Centers and Clinics

The four centers and one clinic supported by the College of Education and Educational Technology offer a variety of services to the university community and citizens of the Commonwealth of Pennsylvania to include diagnostic testing, remedial services, assessment, and instruction.

The **Speech and Hearing Clinic** is staffed by Special Education faculty and supervised graduate students working toward advanced degrees in Speech-Language Pathology. Using state-of-the-art equipment, clinic personnel provide diagnosis of speech problems and hearing tests and evaluations, as well as a regular program of therapy for clients. As part of this program, clinic staff members provide testing and necessary therapeutic services to all teacher education candidates, who must meet strict speech and hearing clearances. Regularly enrolled students at the university, including all teacher certification candidates, are eligible to receive these services without charge.

The **Child Study Center** provides opportunities for School Psychology graduate students in the post-master's certification and doctoral programs to acquire professional skills under the supervision of certified faculty supervisors. Clinic personnel provide psychoeducational assessment for children and adolescents with learning and/or behavior problems. They also provide consultation for parents and public school personnel involved with these children.

The **Center for Rural Gifted Education** offers educator training, resources, and consultation for gifted and high ability students in rural Pennsylvania and their families. Assessment and child/family counseling is provided in conjunction with the IUP Child Development Center. This center is supported by faculty from the Department of Special Education and Clinical Services and the Department of Educational and School Psychology.

The **Center for Educational and Program Evaluation** (CEPE), housed in the Department of Educational and School Psychology, provides services to school districts, human service agencies, educational consultants, and publishers. Specifically, the CEPE provides:

- consultation and program evaluations
- data analysis
- consultation and program evaluation design for grant submissions
- workshops and in-service presentations

The CEPE, under close faculty supervision, trains graduate students in research design, data analysis, and program evaluation. The CEPE can also help meet Act 48 mandated staff development requirements.

The **Literacy Center**, housed within the Department of Professional Studies in Education, provides opportunities for graduate students in the M.Ed. in Literacy program to gain experience toward a Reading Specialist Certification. The center offers assessment and instruction in reading and writing for children and adolescents. These instructional sessions are offered in the fall, spring, and summer terms. Family literacy services are also available.

The **Applied Media and Simulation Games Center** (AMSGC) is housed in the Department of Communications Media. The AMSGC is dedicated to exploring current and emerging multimedia, simulation and game technologies that can enhance communication experiences and environments. The AMSGC aims to create an interdisciplinary juxtaposition of entertainment and learning, teaching and technology, conceptual foundations and concrete skills. AMSGC students will receive a conceptual understanding of communications media, a practical knowledge of the development of multimedia, interdisciplinary grounding in their field, and a grasp of how to apply what they have learned.

Specialized Instructional Facilities

The **Audio Studio** has four-track analog capability and eight-track digital capability. Students are able to digitally master tracks to 48 KHz quality. The analog audio component is centered around a 24-port console capable of eight stereo outputs. Peripheral equipment includes CD, mic and cassette inputs, and various modern signal processing equipment for post production activities.

The **Graphics Multimedia Lab**, located on the ground floor of Stouffer Hall, provides a variety of software applications, black-and-white and color printing capabilities, color scanner, and a negative film scanner. The facility is used for instruction in graphics, as well as multimedia production. Software applications available in the lab include Macromedia Fireworks, Adobe Photoshop, Adobe Illustrator, and Macromedia Authorware.

The **Portfolio Assistance Center** offers assistance in the completion of the electronic portfolio. The staff can assist in the use of the scanners, digital cameras, and video editing hardware and software. A wealth of other software programs are available, along with workshops to assist with the digital portfolio.

The **Radio Station** at IUP, WIUP-FM, is a 1600-watt, noncommercial, student-operated facility. Students from a variety of majors volunteer as DJs and news and sports staff members. There are also many opportunities for students to host a variety of different types of music shows.

The **Speech-Language Pathology Video Observation Lab** is housed in the IUP Speech and Hearing Clinic. Funded by a Pennsylvania Department of Education Link-to-Learn Higher Education Technology grant in 2002, this is the only lab that utilizes a unique system for the digital video capture of students' speech and language diagnostic or treatment sessions. This system facilitates students' self-analysis of their sessions and supervisor feedback to students. The resulting digital files can also be used in classroom instruction or as components of student portfolios.

The **Television Station** broadcasts over a cable system that has a potential audience of 100, 000 people. WIUP-TV has approximately 100 students involved in management and production. The facility is student run with a faculty advisor and features state-of-the-art hardware and software.

Department of Adult and Community Education

Website: *www.iup.edu/ace*
Trenton R. Ferro, Chairperson; Dean

The Department of Adult and Community Education is a graduate department offering two tracks leading to the Master of Arts degree: Adult and Community Education and Adult Education and Communications Technology.

The Master of Arts degree in Adult and Community Education helps students develop skills related to teaching and planning educational programs for adults in a wide variety of settings, including business and industry, the community, social service organizations, health agencies and hospitals, colleges and universities, the government, and religious institutions. The Master of Arts degree in Adult Education and Communications Technology, administered jointly with the Department of Communications Media, prepares students to become adult educators with an emphasis on the use of technology, including computers, production design, radio and television, and distance education technology.

Completion of appropriate requirements allows students in the AECT track to apply for PDE certification as an Instructional Technology Specialist.

Refer to the *Graduate School Catalog* for further details.

Department of Communications Media

Website: *www.iup.edu/cm*
Kurt P. Dudt, Chairperson; Ansel, Handler, Kanyarusoke, Kornfeld, Lamberski, Leidman-Golub, Lenze, Start, Wilson; and professors emeriti MacIsaac, Murray, Young

The department offers a Bachelor of Science degree in Communications Media and two minors, one in Communications Media and one in Educational Technology. The minor in Communications Media is an 18-credit program designed to complement any major. The minor in Educational Technology is a 24-credit program designed for students in the College of Education and Educational Technology who are completing a teaching degree. The department also serves preservice teachers and other students who are required to complete COMM 103.

The philosophy of the Communications Media Department is to prepare generalists in the area of communications. Our students may select from a number of elective courses, depending on their career interests.

The department faculty offers a wide variety of experience in all areas of communications media. With the combination of classroom work and the optional internship program, departmental graduates are competitive for positions in various areas. Students graduating with a degree in Communications Media have obtained positions in such areas as radio, television, cable television, public relations, advertising media, media relations, and corporate media relations.

Students changing majors from other academic departments within the university are required to be in good academic standing before the transfer will be approved.

Bachelor of Science–Communications Media

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: 3cr
Social Science: PSYC 101
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101 (to be taken in the freshman year), no courses with COMM prefix

Major: 42
Required Courses:

COMM 101	Communications Media in American Society	3cr
COMM 150	Aesthetics and Theory of Communications Media	3cr
COMM 395	Career Planning in Communications Media	1cr
COMM 475	Senior Portfolio Presentation	1cr
COMM 493	Internship (summer only)	6, 9, or 12cr

Minimum of one course from the following:

COMM 302	Research in Communications Media	3cr
COMM 303	Scriptwriting	3cr
COMM 330	Instructional Design for Training and Development	3cr
COMM 403	Broadcast Newswriting	3cr

Minimum of two courses from the following:

COMM 240	Communications Graphics	3cr
COMM 249	Basic Audio Recording Techniques	3cr
COMM 251	Television Production	3cr
COMM 271	Beginning Photography	3cr
COMM 340	Advanced Communication Graphics	3cr
COMM 349	Radio Production	3cr
COMM 351	Advanced Video Production	3cr
COMM 371	Photography II: The Print	3cr
COMM 440	Multimedia Production	3cr
COMM 449	Advanced Audio Recording Techniques	3cr
COMM 451	Broadcast News Process	3cr
COMM 471	Electronic Imaging	3cr

Controlled Electives: 13-19cr
Other COMM elective courses including courses from the above lists not taken as part of those requirements.

Other Requirements: 21
Courses outside Communications Media that augment the student's major course of study (advisor approval)

Free Electives: 6

(#) Total Degree Requirements: 120

(#) A maximum of 12cr of COMM 493 can be applied to requirements for graduation.

Minor–Communications Media 18

Required Courses:

COMM 101	Communications Media in American Society	3cr
COMM XXX	Electives in Communication Media	15cr

Minor–Educational Technology 24

Required Courses:

BTED/COSC/IFMG 101	Microbased Computer Literacy	3cr
COMM 101	Communications Media in American Society	3cr
COMM 460	Emerging Trends in Communications Technology	3cr
COMM XXX	Electives in Communications Media	15cr

Department of Counseling

Website: *http://www.coe.iup.edu/ce*
Claire Dandeneau, Chairperson; Fontaine, Guth, L'Amoreaux, Marshak, McCarty, Rishel, Utay, Witchel; and professor emeritus Worzbyt

The Department of Counseling is a graduate department which offers two master's degree programs. The Master of Arts degree in Community Counseling is designed to prepare students to work in a variety of settings including mental health centers, drug and alcohol treatment programs, specialized community agencies, vocational education or rehabilitation programs, correctional institutions, health care setting, social services, business and industry. This program is also offered at the IUP Monroeville Graduate and Professional Center in Monroeville.

The Master of Education degree in School Counseling Certification is designed to prepare Elementary and Secondary Counselors to qualify for institutional and commonwealth certification. The 48-credit competency-based program includes a series of counseling skills courses to individual and group counseling and a field experience under the supervision of a certified school counselor. Those students already possessing a master's degree may apply to the counseling program for "Certification Only" status. Refer to the *Graduate School Catalog* for further details.

Department of Educational and School Psychology

Website: *www.iup.edu/edsp*
Mary Ann Rafoth, Chairperson; Barker, Black, Briscoe, Damiani, Knickelbein, Kovaleski, Levinson, Rattan; and professors emeriti Hoeflein, Quirk, Yanuzzi

The department provides courses to undergraduate and graduate students. Undergraduate students may minor in Educational Psychology by making application to the director of the minor program. Fifteen credits of Educational Psychology courses are required for the minor. The department also offers the M.Ed. degree in Educational Psychology as well as a

post-master's certification and a Doctor of Education in School Psychology. Refer to the *Graduate School Catalog* for details.

Department of Foundations of Education

Website: *www.iup.edu/fe*
Thibadeau; and professor emeritus Chu

The Department of Foundations of Education provides elective coursework in urban education, curriculum development, and contemporary issues and trends in education. Graduate courses offered by this department include Comparative, Historical, Philosophical, and Social Foundations of Education. Refer to the *Graduate School Catalog* for details.

Department of Professional Studies in Education

Website: *www.iup.edu/pse*
Laurie Nicholson Stamp, Chairperson; Bieger, Corbett, Creany, Doverspike, Edwards, Fello, Fennimore, Hannibal, Helterbran, Jalongo, Kaufman, Kerry-Moran, Kupetz, Millward, Nicholson, Paquette, Rieg, Rotigel, Tidwell, Mark Twiest, Meghan Twiest, L. Vold, Yan; and professors emeriti Dorsey, Elliott, Gerlach, Glott, King, Lott, McFeely, Mott, Reilly, Rizzo, E. Vold, Walthour

Elementary Education Program

The Elementary Education program is designed to provide learning experiences which will assist students in developing into highly competent and effective teachers in grades K-6. Students are able to expand their knowledge through coursework and field experiences which embody content, knowledge of liberal studies, pedagogy, curriculum, human development and learning, and a historical and philosophical basis to undergird one's professional behavior. A minimum GPA, in accordance with Pennsylvania standards, is required to apply for teacher certification, to take major courses in the department and to student teach.

Urban Track

The Urban Track within the Department of Professional Studies in Education prepares students for teaching in urban school districts, especially in low-income communities with high minority enrollments where the need for high-quality teachers is great. Coursework and field experiences emphasize the historical, economic, political, and sociocultural contexts of urban schools and seek to develop within future teachers the skills, knowledge-base, and sensitivities for working with students whose backgrounds and life experiences often differ in significant ways from their own.

Early Childhood Education/PreK-Grade 6 Program

The Early Childhood Education/PreK-Grade 6 Program is designed to assist students in becoming highly competent and effective teachers of children in Preschool-Grade 6. This program has a strong emphasis on early childhood education and the teaching of reading. Students in this program will meet the academic requirements for certification in both Early Childhood Education/PreK-Grade 6 and Elementary Education with an academic concentration in reading. This unique program, combining coursework, extensive field experiences, and community involvement, prepares students to be professional educators who are well qualified to utilize appropriate techniques and strategies to expand children's cognitive, language, social, emotional, and physical development.

Admission to this program requires satisfactory completion of an interview in addition to the university general requirements. Detailed information will be sent to the applicant upon request. A minimum GPA, in accordance with Pennsylvania standards, is required to apply for teacher certification, to take major courses in the department, and to student teach. Students must meet the requirements leading to teacher certification as outlined in this catalog.

Graduate Programs

Programs leading to the M.Ed. and D.Ed. degrees are described in the *Graduate School Catalog*. Internships and assistantships are available.

Bachelor of Science in Education–Elementary Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		53
Fine Arts: THTR 101		
Mathematics: MATH 151		
Natural Science: SCI 101, 102, 103, and 104 (1)		
Social Science: GEOG 101, 102, or 104, PSYC 101		
Liberal Studies Electives: 6cr, MATH 152 (2), no courses with ELED prefix, not to include CDFR 218		
College:		24
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
Major:		36
Required Courses:		
EDEX 300	Education of Students with Disabilities in Inclusive Elementary Classrooms	2cr
EDUC 499	Multicultural/Multiethnic Education	2cr
ELED 211	Music for the Elementary Grades	2cr
ELED 213	Art for the Elementary Grades	2cr
ELED 215	Child Development	3cr
ELED 221	Children's Literature	3cr
ELED 222	Reading for the Elementary School	3cr
ELED 257	Pedagogy I	3cr
ELED 312	Teaching of Elementary Science	2cr
ELED 313	Teaching Mathematics in the Elementary School	3cr
ELED 314	Teaching of Health and Physical Education	2cr
ELED 357	Pedagogy II	3cr
ELED 411	Teaching of Social Studies	3cr
ELED 425	Language Arts Across the Curriculum	3cr
Other Requirements:		6
Special electives from a defined discipline (3)		
Free Electives:		1
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) This sequence of 10cr fulfills the Liberal Studies natural science requirement.

(2) For students who test out of MATH 152, consult your advisor for suggested math courses.

(3) More than twenty options are available for groupings in specific departments or cross-departmental areas. This requirement is also fulfilled by completion of an approved specialty such as FLISET, math, or reading.
* FLISET: see requirements in this catalog.
* Mathematics: MATH 317, 420, 456, 457, 458, 459, 471, 483 (math concentration requires 15cr to include MATH 151, 152)
* Reading: ECED 220 or 451, EDUC 408, ELED 422, (reading concentration requires 15cr to include ELED 221, 222, 425)

Students may select a set of special electives from the list of Liberal Studies electives or non-Western courses that have not been used previously in their program. With permission of the chairperson of

Professional Studies in Education and a specific department, a student may be allowed to create an area of specialty other than those listed. See department office for full listing; check prerequisites carefully. Submit plan to advisor for approval.

Bachelor of Science in Education–Elementary Education/ Urban Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Fine Arts:** THTR 101 **Mathematics:** MATH 151 **Natural Science:** SCI 101, 102, 103, and 104 (1) **Social Science:** GEOG 101, 102, or 104, PSYC 101 **Liberal Studies Electives:** 6cr, MATH 152 (2), no courses with ELED prefix, not to include CDFR 218		53
College:		24
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr (3)
EDUC 442	School Law	1cr
Major:		36
Required Courses:		
EDEX 300	Education of Students with Disabilities in Inclusive Elementary Classrooms	2cr
EDUC 499	Multicultural/Multiethnic Education	2cr
ELED 211	Music for the Elementary Grades	2cr
ELED 213	Art for the Elementary Grades	2cr
ELED 215	Child Development	3cr
ELED 221	Children's Literature	3cr
ELED 222	Reading for the Elementary School	3cr
ELED 257	Pedagogy I	3cr
ELED 312	Teaching of Elementary Science	2cr
ELED 313	Teaching Mathematics in the Elementary School	3cr
ELED 314	Teaching of Health and Physical Education	2cr
ELED 357	Pedagogy II	3cr
ELED 411	Teaching of Social Studies	3cr
ELED 425	Language Arts Across the Curriculum	3cr
Controlled Requirements:		6
FDED 440	Orientation to Teaching in Urban Centers	3cr
FDED 441	Field Experiences in Urban Centers	3cr
Free Electives:		1
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) This sequence of 10cr fulfills the Liberal Studies Natural Science requirement.

(2) For students who test out of MATH 152, consult your advisor for suggested math courses.

(3) For Option A, student teaching must take place in a designated urban school. For Option B, student teaching must take place in an urban Professional Development School partner site.

Bachelor of Science in Education–Early Childhood Education/ PreK-Grade 6 (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 151 **Natural Science:** SCI 101, 102, 103, and 104 **Social Science:** GEOG 101, 102, or 104, PSYC 101 **Liberal Studies Electives:** 6cr, must include MATH 152, no courses with ECED prefix, not to include CDFR 218		53
College:		25
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
ECED 180	Orientation to the ECED/ELED Program	1cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
Major:		42
Required Courses: (1)		
CDFR 426	Techniques of Parent Education	3cr
ECED 200	Introduction to Early Childhood Education	3cr
ECED 220	Children's Literature to Enhance Emergent and Beginning Reading	3cr
ECED 280	Maximizing Learning	3cr
ECED 310	Science and Health in the Literacy-based Early Childhood Curriculum	3cr
ECED 314	Creative Experiences to Enhance Literacy Acquisition	3cr
ECED 451	Teaching Primary Reading	3cr
ECED 480	Professional Seminar, Teacher as Researcher and Advocate	1cr
EDEX 300	Education of Students with Disabilities in Inclusive Elementary Classrooms	2cr
EDEX 415	Preschool Education for Children with Disabilities	3cr
EDUC 408	Reading in the Content Areas	3cr
ELED 215	Child Development	3cr
ELED 422	Diagnostic and Remedial Reading	3cr
ELED 425	Language Arts Across the Curriculum	3cr
MATH 320	Mathematics for Early Childhood	3cr
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) A 3.0 cumulative GPA is required to register for major courses.

Dual Certification

Students majoring in Education of Deaf and Hard-of-Hearing Persons or Education of Exceptional Persons may complete academic requirements for certification in Elementary Education by completing the following requirements. Students are advised that completion of requirements for a second certification will take approximately two extra semesters. In certain circumstances, such as for transfer students, students who must repeat courses, or when students take courses out of sequence, earning this second certification may take longer.

Dual Certification–Elementary Education for Majors in Education of Deaf and Hard-of-Hearing Persons

EDUC 342	Pre-student Teaching Clinical Experience II (ELED)	1cr
EDUC 421	Student Teaching	6cr (1)
ELED 221	Children's Literature	3cr
ELED 257	Pedagogy I	3cr
ELED 312	Teaching of Elementary Science	2cr
ELED 313	Teaching Mathematics in the Elementary School	3cr (2)
ELED 357	Pedagogy II	3cr
ELED 411	Teaching of Social Studies	3cr
ELED 425	Language Arts Across the Curriculum	3cr
Recommended Elective:		
ELED 351	Creative Activities in the Elementary School	3cr

(1) Students are required to do 6cr of student teaching in the regular elementary classroom in addition to the 12cr required in the EDHI. major, or a total of 18cr of student teaching inclusive for both certifications.

(2) MATH 152 is a prerequisite for ELED 313 and should be taken as a Liberal Studies elective.

Dual Certification–Elementary Education for Majors in Education of Exceptional Persons

EDUC 342	Pre-student Teaching Clinical Experience II (ELED)	1cr
EDUC 421	Student Teaching	6cr (1)
ELED 221	Children's Literature	3cr
ELED 257	Pedagogy I	3cr
ELED 312	Teaching of Elementary Science	2cr
ELED 313	Teaching Mathematics in the Elementary School	3cr (2)
ELED 357	Pedagogy II	3cr
ELED 411	Teaching of Social Studies	3cr
ELED 425	Language Arts Across the Curriculum	3cr
Recommended Electives:		
ELED 351	Creative Activities in the Elementary School	3cr

(1) Students are required to do 6cr of student teaching in the regular elementary classroom in addition to the 12cr required in the EDEX major, or a total of 18cr of student teaching inclusive for both certifications.

(2) MATH 152 is a prerequisite for ELED 313 and should be taken as a Liberal Studies elective.

Foreign Languages and International Studies for Elementary Teaching (FLISET) (1)

Elementary Education/Early Childhood Education/PreK-Grade 6 majors may develop an academic specialty in Spanish and International Studies, which will prepare them to teach in elementary programs in which content teaching in the foreign language is the objective. To complete this specialty area, students must: (1) attain a minimum level of intermediate-high on the ACTFL/ETS scale; (2) successfully complete a six-week summer study/internship abroad at a site approved by the department (usually the summer following the junior year); (3) successfully complete the student teaching experience in a bilingual or immersion elementary school classroom; and (4) complete the following minimum number of credits in Spanish:

Required Courses:		22 (2)
SPAN 201	Intermediate Spanish	4cr
SPAN 220	Intermediate Spanish Conversation and Grammar	3cr
SPAN 230	Intermediate Spanish Composition	3cr
SPAN 290	Spanish for Elementary Teaching	3cr
SPAN 340	Hispanic Civilization Through the Nineteenth Century	3cr
SPAN 350	Advanced Spanish Conversation	3cr
SPAN 390	Teaching of Elementary Content Through the Spanish Language	3cr
Controlled Elective: one course		3
SPAN XXX	Elective (taken abroad)	3cr
Other Requirements:		0-6
GEOG 252, PLSC 387, or ANTH 474 as the non-Western course		0cr
Study/internship in Mexico for six to eight weeks the summer following junior year		0-6cr
Student teaching experience in immersion classroom		0cr

(1) Students interested in the program should contact the director of the FLISET Program in the Department of Spanish or the FLISET coordinator in the Department of Professional Studies in Education.

(2) While the total number of credits required in Spanish in order to attain the desired proficiency level will vary from student to student depending on the entry level of proficiency, most students can expect to complete between 25 and 31cr.

Department of Special Education and Clinical Services

Website: *www.iup.edu/special-ed*

Joseph W. Domaracki, Chairperson; Baker, Benham, Fallon, Ferrell, Glor-Sheib, Hutson-Feudale, Jackson, Johnson, Klein, Lombard, Marshak, Nolan, Nowell, Robertson, D. Stein, K. Stein, Tellis, Yost; and professors emeriti M. Bahn, W. Bahn, Fiddler, Morris, C. Reber, Shane, Turton

This department offers the Bachelor of Science in Education degree in **Education of Exceptional Persons**, **Speech-Language Pathology and Audiology**, and **Education of Deaf and Hard-of-Hearing Persons**. Each of these majors follows a prescribed sequence of courses.

The following grade policy applies to all three undergraduate programs of study in the Department of Special Education and Clinical Services. Individual students may appeal any aspect of the policy by making a formal written request to the Departmental Appeals Committee.

1. No more than one "D" in major courses will be accepted toward graduation and certification.
2. No "D" is permitted as the final recorded grade in any of the following courses:
   EDEX 425 Methods and Curriculum (Mild-Moderate)
   EDEX 435 Methods and Curriculum (Severe-Profound)
   EDHI. 308 Language for Deaf and Hard-of-Hearing Persons
   EDUC 421 Student Teaching
   EDUC 441 Student Teaching
   RHAB 322 Rehabilitation Case Study and Interpretation
   RHAB 488 Field Training in Rehabilitation I
   RHAB 493 Field Training in Rehabilitation II
   SPLP 122 Clinical Phonology

The following enrollment policy applies to three undergraduate programs in the department: Education of Exceptional Persons, Education of Deaf and Hard-of-Hearing Persons, and Speech-Language Pathology and Audiology. To enroll in a 300- or 400-level course in those programs, a student must have a minimum 3.0 cumulative GPA and must meet the other provisions of the 3-Step Process for admission to teacher education and must either be a departmental major or have permission of the department chair.

A. Education of Exceptional Persons

Completion of the sequence of study in this major leads to Pennsylvania Department of Education special education certification (Mentally and/or

Physically Handicapped Certificate). Students will be prepared to teach persons with mental retardation, autism, developmental disabilities, learning disabilities, brain injuries, emotional/behavioral disorders, physical disabilities, and multiple disabilities. Academic coursework and field experiences are integrated within the course of study. The program also provides a foundation for pursuing additional study at the graduate level.

Bachelor of Science in Education–Education of Exceptional Persons (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 151 and 152 (1) **Social Science:** PSYC 101 **Natural Science:** laboratory science sequence required (SCI 105-106 recommended) **Liberal Studies Electives:** 0cr		48
College:		24
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology *or*	
EDEX 103	Special Education Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-Student Teaching Clinical Experience I	1cr
EDUC 342	Pre-Student Teaching Clinical Experience II	1cr
EDUC 421	Student Teaching (Mild/Moderate)	6cr
EDUC 441	Student Teaching (Severe/Profound)	6cr
EDUC 442	School Law	1cr
Major:		43
Required Courses:		
EDEX 111	Introduction to Exceptional Persons	3cr
EDEX 112	Typical and Atypical Growth and Development	3cr
EDEX 221	Methods of Teaching Mathematics to Persons with Disabilities	3cr
EDEX 222	Methods of Teaching Reading to Persons with Disabilities	3cr
EDEX 231	Methods of Teaching Content Area Subjects to Persons with Disabilities	3cr
EDEX 321	Methods of Teaching Language Arts to Persons with Disabilities	3cr
EDEX 340	Introduction to Behavior Management in Special Education	3cr
EDEX 416	Education of Persons with Emotional or Behavioral Disorders	3cr
EDEX 417	Education of Persons with Mental Retardation or Developmental Disabilities	3cr
EDEX 418	Education of Persons with Physical or Multiple Disabilities	3cr
EDEX 419	Education of Persons with Brain Injuries or Learning Disabilities	3cr
EDEX 425	Methods and Curriculum (Mild-Moderate Disabilities)	3cr
EDEX 435	Methods and Curriculum (Severe-Profound Disabilities)	3cr
EDEX 440	Ethical and Professional Behavior	1cr
SPLP 254	Classroom Management of Language Disorders	3cr
Free Electives:		5
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) An approved Liberal Studies MATH course may substitute for MATH 152.

Dual Certification

Students majoring in Elementary Education may complete academic requirements for certification in Education of Exceptional Persons by completing the following requirements. Students are advised that completion of requirements for a second certification will take approximately two extra semesters.

Dual Certification–Education of Exceptional Persons for Majors in Elementary Education

EDEX 111	Introduction to Exceptional Persons *or*	3cr
EDEX 300	Education of Students with Disabilities in the Inclusive Elementary Classroom	2cr
EDEX 416	Education of Persons with Emotional or Behavioral Disorders	3cr
EDEX 417	Education of Persons with Mental Retardation or Developmental Disabilities	3cr
EDEX 418	Education of Persons with Physical or Multiple Disabilities	3cr
EDEX 419	Education of Persons with Brain Injuries or Learning Disabilities	3cr
EDEX 425	Methods and Curriculum (Mild-Moderate Disabilities)	3cr
EDEX 435	Methods and Curriculum (Severe-Profound Disabilities)	3cr
EDEX 440	Ethical and Professional Behavior	1cr
EDUC 342	Pre-student Teaching Clinical Experience II (EDEX)	1cr
EDUC 421	Student Teaching (EDEX)	6cr (1)
Recommended Electives:		
EDEX 340	Introduction to Behavior Management in Special Education	3cr
SPLP 254	Classroom Management of Language Disorders	3cr

(1) The 6cr of student teaching in EDEX with students with severe and profound disabilities are in addition to the 12cr normally required for Elementary Education or Early Childhood Education/PreK-Grade 6 majors.

B. Speech-Language Pathology and Audiology

Completion of the sequence of courses in Speech-Language Pathology and Audiology serves as a preprofessional program for students planning to become practicing speech-language pathologists or audiologists. Students entering the undergraduate program should be aware of the following:

1. IUP is accredited by the Educational Standards Board of the American Speech-Language-Hearing Association and qualifies a person for the Certificate of Clinical Competence from the American Speech-Language-Hearing Association and Pennsylvania State Licensure.
2. National certification, state licensure, and Pennsylvania Department of Education Certification in Speech-Language Impaired are available only to holders of the master's degree in Speech-Language Pathology.
3. Students will need to project a minimum cumulative GPA of 3.0 to qualify for admission to most graduate schools.
4. Upon completion of a master's degree at IUP, students will be prepared to provide services in work settings such as hospitals, community clinics, public health programs, and rehabilitation settings.
5. Students who elect to prepare for certification in Speech-Language Impaired from the Pennsylvania Department of Education must successfully complete the College of Education and Educational Technology requirements listed below prior to enrollment in the Master of Science degree in the Speech-Language Pathology program at IUP.

The University Speech and Hearing Clinic serves as the laboratory for the undergraduate clinical practicum. Prior to registration for the clinical

practicum course (SPLP 420), students must earn a minimum cumulative 3.0 GPA and complete the following hours of observation through enrollment in EDUC 242 and 342:

A. 25 hours of observation in speech-language pathology supervised by an IUP faculty member who holds a Certificate of Clinical Competence in Speech-Language Pathology.
B. 20 hours of classroom observation:
   1. Five hours in regular education classrooms, K-3.
   2. Five hours in special education classrooms.
   3. Five hours in regular education classrooms with integrated special students.
   4 Five hours in community facilities such as preschools, sheltered workshops, etc. Services in this category should be of a noneducational nonspeech pathology type.

Bachelor of Science in Education–Speech-Language Pathology and Audiology (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: 6cr, MATH 217 and any course from the approved list
Natural Science: laboratory science sequence required (BIOL 103-104 recommended)
Social Science: PSYC 101
Liberal Studies Electives: 6cr, PSYC 310, no courses with SPLP prefix

Pre-Teacher Certification Track only: 10
Preprofessional Education Sequence:

COMM 103	Technology for Learning Instruction	3cr
EDSP 102	Educational Psychology	3cr

Professional Education Sequence:

EDUC 442	School Law	1cr
SPLP 412	Organization and Administration of Speech and Hearing Programs	3cr

Major: 38
Required Courses:

EDEX 111	Introduction to Exceptional Persons	3cr
EDEX 222	Methods of Teaching Reading to Persons with Disabilities	3cr
EDUC 242	Pre-Student Teaching Clinical Experience I	1cr
EDUC 342	Pre-Student Teaching Clinical Experience II	1cr
SPLP 111	Introduction to Communication Disorders	3cr
SPLP 122	Clinical Phonology	3cr
SPLP 222	Introduction to Audiology	3cr
SPLP 242	Speech Science I	3cr
SPLP 251	Anatomy and Physiology of the Speech and Hearing Mechanism	3cr
SPLP 311	Aural Rehabilitation	3cr (1)
SPLP 334	Language Development	3cr
SPLP 342	Speech Science II	3cr
SPLP 406	Articulation and Language Disorders	3cr
SPLP 408	Stuttering and Voice Disorders	3cr

Free Electives: EDUC 499 and SPLP 420 recommended 21 or 31
General Track 31cr
Pre-Teacher Certification Track 21cr

Total Degree Requirements: 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.
(1) A minimum cumulative 3.0 GPA is required to enroll in all 300- and 400-level courses for both pre-teacher certification and noncertification speech-language pathology majors.

C. Education of Deaf and Hard-of-Hearing Persons

Completion of the sequence of courses in Education of Deaf and Hard-of-Hearing Persons leads to a Bachelor of Science degree in Education and Pennsylvania Department of Education certification as a "Teacher of the Hearing Impaired, K-12." Students are provided with the basic skills to teach in special classes for hard-of-hearing or deaf individuals.

Students enrolled in this sequence of study are prepared to assume positions as itinerant hearing therapists and classroom teachers for individuals ranging from preschoolers to adults. Work settings may include public schools, continuing education programs, and home training situations.

Observations, clinical experience, and practicum are required prior to placement in a school environment for the student teaching experience. The student will complete the following 50 hours of observation through enrollment in EDUC 242.

A. 25 hours of observation of itinerant and self-contained classrooms for the hearing impaired.
B 10 hours of observation in regular education classrooms.
C. 10 hours of observation in special education classrooms.
D. 5 hours of observation in a noneducational setting.

The student will complete 30 hours of individual clinical experience through enrollment in EDHL 329 and 330 and 35 hours of school-based practicum through enrollment in EDUC 342.

Bachelor of Science in Education–Education of Deaf and Hard-of-Hearing Persons (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 151, MATH (1)
Social Science: PSYC 101
Liberal Studies Electives: 6cr, no courses with EDHL prefix

College: 28
Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr

Professional Education Sequence:

EDHL 360	General Methodology for Education of Deaf and Hard-of-Hearing Persons I	2cr
EDHL 361	General Methodology for Education of Deaf and Hard-of-Hearing Persons II	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 421	Student Teaching-Hearing Impaired (Pri-Elem)	6cr
EDUC 441	Student Teaching-Hearing Impaired (Jr-Sr H.S.)	6cr
EDUC 442	School Law	1cr

Major: 38
Required Courses:

EDEX 111	Introduction to Exceptional Persons	3cr
EDHL 114	Introduction to Deaf and Hard-of-Hearing Persons	3cr
EDHL 115	Introduction to American Sign Language	1cr
EDHL 215	Intermediate American Sign Language I	1cr
EDHL 216	Intermediate American Sign Language II	1cr
EDHL 307	Speech for Deaf and Hard-of-Hearing Persons	3cr
EDHL 308	Language for Deaf and Hard-of-Hearing Persons	3cr
EDHL 315	Manually Coded English	1cr
EDHL 316	Interpreting for Teachers	1cr
EDHL 329	Teaching–Collaborative Practicum I	1cr
EDHL 330	Teaching–Collaborative Practicum II	1cr
EDHL 415	ASL Pedagogy	1cr

EDHL 451	Teaching Reading to Deaf and Hard-of-Hearing Persons	3cr
EDHL 465	Parent-Preschool Programs for Deaf and Hard-of-Hearing Persons	3cr
SPLP 222	Introduction to Audiology	3cr
SPLP 311	Aural Rehabilitation	3cr
SPLP 334	Language Development	3cr
Controlled Elective:		
One course from: CDFR 218, EDEX 112		3cr

(#) **Total Degree Requirements:** 120

(*) A minimum cumulative and major GPA of 3.0 is required to enroll in all 300- and 400-level courses. See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) Pennsylvania State Department of Education requires two college-level (6cr) math courses. Students may take any Liberal Studies MATH course to fulfill this requirement.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the Requirements for Graduation section of this catalog.

Dual Certification

Students majoring in Elementary Education may complete academic requirements for certification in Education of Deaf and Hard-of-Hearing Persons by completing the following requirements. Students are advised that completion of requirements for a second certification will take approximately two extra semesters.

Dual Certification–Education of Deaf and Hard-of-Hearing Persons for Majors in Elementary Education

EDHL 114	Introduction to Deaf and Hard-of-Hearing Persons	3cr
EDHL 115	Introduction to American Sign Language	1cr
EDHL 215	Intermediate American Sign Language I	1cr
EDHL 307	Speech for Deaf and Hard-of-Hearing Persons	3cr
EDHL 308	Language for Deaf and Hard-of-Hearing Persons	3cr
EDHL 329	Teaching–Collaborative Practicum I	1cr
EDHL 330	Teaching–Collaborative Practicum II	1cr
EDHL 415	ASL Pedagogy	1cr
EDHL 451	Teaching Reading to Deaf and Hard-of-Hearing Persons	3cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 421	Student Teaching (EDHL) (1)	6cr
SPLP 222	Introduction to Audiology	3cr
SPLP 311	Aural Rehabilitation	3cr
Recommended Electives:		
SPLP 242	Speech Science I	3cr
SPLP 334	Language Development	3cr

(1) **Student Teaching Configuration**–In addition to their regular requirement of 12cr in Elementary Education, dual certification students must do an extra 6cr placement. The recommended pattern is as follows:
- *6cr in a regular elementary classroom
- *6cr in an elementary classroom with deaf and/or hard-of-hearing pupils included
- *6cr in upper school classroom with deaf and/or hard-of-hearing pupils
- *Total = 18cr inclusive for both certifications

Department of Student Affairs in Higher Education

Website: *www.iup.edu/sahe*
Ronald Lunardini, Chairperson; Belch, Hall, Mueller

The Department of Student Affairs in Higher Education offers a Master of Arts degree in Student Affairs in Higher Education. Students in this program prepare to be professional practitioners in two- and four-year colleges and universities in a variety of administrative areas, i.e., admissions, housing and residence life, student development programs, student activities and organizations, Greek affairs, registration, financial aid, career planning and development, minority affairs, health services, athletics, advising and testing, international student services, and counseling programs.

Please refer to the *Graduate School Catalog* for further details.

The College of Fine Arts

Michael J. Hood, Dean

Marjorie E. Arnett, Assistant Dean for Curriculum and Instruction

Website: ***www.iup.edu/finearts***

The College of Fine Arts has professional programs in art, music, and theater and awards the Bachelor of Arts and Bachelor of Fine Arts degrees. Programs leading to certification to teach are offered in cooperation with the College of Education and Educational Technology and lead to the Bachelor of Science in Education degree. The college offers minors in art, music, theater, and dance.

With one of the largest arts programs in the commonwealth, IUP's College of Fine Arts offers members of both the university and the extended community many opportunities to learn and grow. Dedicated facilities for each department are augmented by a 1,600-seat auditorium, two theaters, two art galleries, a university museum, a recital hall, a computer laboratory, and a dance studio. Typically, the college sponsors two hundred to three hundred arts events annually, and our students, who currently enjoy the strongest academic profile of any of the university's colleges, have opportunities to develop their talents locally, regionally, nationally, and internationally through a variety of long-established field-based programs.

There are no additional college requirements for graduation beyond the university and departmental requirements listed in other sections of this catalog.

Mission Statement

The mission of the College of Fine Arts at IUP is to provide excellent programs of study for all of its majors, balancing high professional standards with rigorous and current educational practice, and to provide coursework and programs of an equally high standard in service to majors in other departments which may require arts classes and, as part of the university's general studies mandate, to the entire university student body.

The College of Fine Arts takes as its special mission the presentation of arts events including plays, concerts, exhibitions, and recitals, featuring the work of our students and faculty as well as the work of visiting arts professionals, as a gift of enrichment and as a celebration of the human spirit for the university, the community, and the region.

Finally, the college takes as its mandate and its privilege the inclusion in its presentations, studios, and classrooms the works, thoughts, and performances of a culturally and ethnically diverse world of art.

College Majors

- Art (History or Studio Track)–B.A.
- Art Education–B.S.Ed.
- Art Studio–B.F.A.
- Interdisciplinary Fine Arts–B.A.
- Music (History and Literature, Performance, or Theory and Composition Track)–B.A.
- Music Education–B.S.Ed.
- Music Performance–B.F.A.
- Theater–B.A.

Interdisciplinary Fine Arts Major

An interdisciplinary fine arts major program is available for those students desiring to take coursework in art, dance, communications media, fashion merchandising, interior design, music, and theater. This program is offered in conjunction with the College of Education and Educational Technology and the College of Health and Human Services. This interdisciplinary program, including an opportunity for an internship (FIAR 493), is coordinated through the Office of the Dean, College of Fine Arts, where additional information is available.

Bachelor of Arts–Interdisciplinary Fine Arts

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** 3cr **Liberal Studies Electives:** 9cr, no courses with FIAR prefix	54
Major: **Required Courses:** Coursework must combine at least three disciplines, one of which must come from the College of Fine Arts. **Controlled Electives:** *Art:* Art Education (ARED), Art History (ARHI), Art Studio (ART) *Music:* Applied Music (APMU), Music History (MUHI), or Music (MUSC) *Theater:* Any Theater (THTR) courses *Dance:* Any Dance (DANC) courses *Communications Media:* Any Communications Media (COMM) courses *Human Development/Environmental Studies:* Interior Design (INDS), Fashion Merchandising (FSMR)	36
Other Requirements: At least one-third (12) of the major credits must be in courses numbered in the 300s and 400s. No course that is used to fulfill Liberal Studies requirements may be used again to meet major requirements.	0
Free Electives:	30
Total Degree Requirements:	120

Department of Art

Website: *www.iup.edu/art*

Richard Ciganko, Chairperson; Boerner, Gillham, Kabala, LaRoche, Mambo, Mannikka, Matsubara, Mitchell, Nestor, Palmisano, Rode, Villalobos-Echeverria, Weiland; and professors emeriti Balsiger, Battaglini, DeFurio, Dongilla, Dropcho, Hamilton, Innes, Seelhorst, Vislosky, Wert

The Department of Art provides a sequence of foundation and advanced-level courses directed toward the development of the student's creative and expressive abilities. Degrees offered are the Bachelor of Fine Arts-Studio, Bachelor of Arts-Art/Studio, Bachelor of Arts-Art/History, and Bachelor of Science in Education-Art Education.

Students pursuing studio or art education degrees are initially admitted into the department through the Entrance Portfolio Review. Art history majors are not required to submit a portfolio. Students interested in pursuing the Bachelor of Fine Arts-Studio degree are initially admitted into the Bachelor of Arts-Art/Studio degree and may transfer into the B.F.A.-Studio program at the end of the sophomore year by successfully completing the B.F.A. Sophomore Review.

The Bachelor of Fine Arts-Studio degree prepares students for careers as professional visual artists and is a platform from which they might go on to study for the Master of Fine Arts level, the terminal degree in the field. The Bachelor of Fine Arts-Studio degree offers three studio emphasis tracks: the Two-Dimensional Emphasis Track (including: drawing, graphic design,

painting, and printmaking), the Three-Dimensional Emphasis Track (including: ceramics, fibers, metals, sculpture, and wood and furniture design), and the Individualized Studio Emphasis Track (in which students are able to build a degree program to meet specialized individual needs).

The Bachelor of Arts-Art/Studio offers students a broad range of advanced studio options.

The mission of the Bachelor of Arts-Art/History degree is to provide art history majors with a solid foundation in the history of art, from ancient through modern times. The degree prepares students for graduate study leading to careers in museums, galleries, fine art libraries, visual resources, teaching, and research. Specific goals, objectives, and competencies related to this degree include the acquisition and demonstration of critical thinking, research, and writing skills; knowledge of terminology, methodology, and competency with various approaches to art historical inquiry; and the ability to conduct art history research through independent investigations.

The Bachelor of Science in Education-Art Education degree is a professional degree program leading to certification to teach K-12 art in the Commonwealth of Pennsylvania. The program reflects contemporary theory and practice in art studio, art history, criticism, aesthetics, culture, and pedagogy. The program complies with all Pennsylvania standards needed for certification to teach art in the commonwealth.

All art majors are obligated to fulfill the university requirement for Liberal Studies coursework. Art Education majors must achieve and maintain a 3.0 cumulative GPA. Bachelor of Fine Arts-Studio majors must achieve a 2.5 cumulative GPA and earn a grade of C or better in all ART and ARHI courses to graduate.

An Art Minor is available to interested majors from other university disciplines. The Art Minor consists of at least 18 credits in art courses approved by the Art Department chairperson.

The College of Fine Arts and the Department of Art have established an exchange program with the National Art Academies of Slovenia and Croatia. Qualified and highly skilled juniors and seniors may participate in the exchange by application to the Art Department exchange coordinator and with approval of their major studio professor, the Department of Art chair, and the College of Fine Arts exchange coordinator.

Detailed information regarding application to one of the degree programs and scheduling a Portfolio Review can be obtained by calling the Department of Art office at 724-357-2530 or by e-mail through the Department of Art website at *www.iup.edu/art*.

Bachelor of Arts–Art/History Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Mathematics: 3cr
Liberal Studies Electives: 6cr, no courses with ARHI prefix

Major:

Foundation Required:		18
ARHI 205	Ancient to Medieval Art	3cr
ARHI 207	Renaissance through Modern Art	3cr
ARHI 224	Introduction to Asian Art	3cr
ARHI 413	Senior Seminar	3cr
ART 112	Fundamentals of Drawing	3cr
ART 114	Color and Two-Dimensional Design	3cr
Controlled Electives: Choose from the following:		27
Up to 6cr (2 courses) of Art Studio, prefix ART		
ARHI 100	Arts of the Twentieth Century	3cr
ARHI 222	Art in America	3cr
ARHI 300	Native American Art	3cr
ARHI 407	Medieval Art	3cr
ARHI 408	Italian Renaissance Art	3cr
ARHI 409	Baroque and Rococo Art	3cr
ARHI 410	Nineteenth-Century European Painting	3cr
ARHI 411	Twentieth-Century European Art	3cr
ARHI 412	Classical Art	3cr
ARHI 416	Northern Renaissance Art	3cr
ARHI 417	Byzantine Art	3cr
ARHI 418	African Art	3cr
ARHI 423	Art of Japan	3cr
ARHI 425	Arts of China	3cr
ARHI 493	Internship	3cr

Foreign Language Required: 12
Foreign Language Intermediate Level (1)

Free Electives: 13

Total Degree Requirements: 120

(1) Intermediate-level foreign language may be included in Liberal Studies Electives.

Bachelor of Arts–Art/Studio (*)

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Fine Arts: ARHI 205
Mathematics: 3cr
Liberal Studies Electives: 3cr, ARHI 207, no courses with ARHI prefix

Major:

Foundation Required:		12
ART 111	Figure Drawing	3cr
ART 112	Fundamentals of Drawing	3cr
ART 113	Three-Dimensional Design	3cr
ART 114	Color and Two-Dimensional Design	3cr
Level II Studio Electives: (select 6 of the following 8 courses)		18
ART 211, 213, 214, 215, 216, 217, 218, 219		
Art History Required:		6
ARHI 100	Arts of the Twentieth Century	3cr
Controlled Art History Elective (Select one course in the last 3 semesters: ARHI 413, 417, 423, or 425. Course must be designated /W/.)		3cr
Advanced Studio Required:		21
Advanced Studio courses from the following: ART 316, 355, 356, 421, 451, 452, 453, 454, 455, 456, 457, 459, 460, 481, 493 (1, 2)		

Free Electives: 15

(#) **Total Degree Requirements:** 120

(1) Students must complete 3cr within an advanced studio before permission will be granted to enroll in the 6cr component of the advanced level. Permission of the instructor is a prerequisite to all 6cr advanced courses.

(2) Inclusion of internship credit hours toward any portion of fulfillment of degree requirements must be approved by the departmental chair and student's major advisor. Approval must be obtained in writing prior to enrollment.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Bachelor of Fine Arts–Art Studio (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		48
Fine Arts: ARHI 205		
Mathematics: 3cr		
Liberal Studies Electives: 3cr, ARHI 207, no courses with ART prefix		
Major:		
Foundation Required:		12
ART 111	Figure Drawing	3cr
ART 112	Fundamentals of Drawing	3cr
ART 113	Three-Dimensional Design	3cr
ART 114	Color and Two-Dimensional Design	3cr
Level II Studio Electives: (Select 6 of the following 8 courses)		18
ART 211, 213, 214, 215, 216, 217, 218, 219		
Art History Required:		6
ARHI 100	Arts of the Twentieth Century	3cr
Controlled Art History Elective (Select one course in the last 3 semesters: ARHI 413, 417, 423, or 425. Course must be designated /W/.)		3cr
Advanced Studio Required:		27
(Select 1 of 3 Advanced Studio Emphasis Tracks)		
Three-Dimensional Studio Track:		
Advanced 3-D studios include: ART 316, 451, 452, 453, 459, 460, 481, 493 (1, 2)		
Primary Advanced Studio (choose 1 studio area above)		15cr
Synthesis Advanced Studios (choose 3 other 3-D advanced studios)		9cr
Two-Dimensional Studio (choose 1 from advanced 2-D studio options)		3cr
Two-Dimensional Studio Track:		
Advanced 2-D studios include: ART 355, 356, 421, 454, 455, 456, 457, 481, 493 (1, 2)		
Primary Advanced Studio (choose 1 studio area above)		15cr
Synthesis Advanced Studios (choose 3 other 2-D advanced studios)		9cr
Three-Dimensional Studio (choose 1 from advanced 3-D studio options		3cr
Individualized Advanced Studio Track:		
(Student with specialized interest can submit a proposal for advanced studio study. Approval required by department chair, Studio division chair, and student's major advisor.)		27cr
Select from list: ART 316, 355, 356, 421, 451, 452, 453, 454, 455, 456, 457, 459, 460, 481, 493 (1, 2)		
Controlled Advanced Studio Electives:		6
Select 6cr from the following: ART 316, 355, 356, 421, 451, 452, 453, 454, 455, 456, 457, 459, 460, 481, 493 (1, 2)		
Senior Thesis and Professional Practicum		3
ART 400	Senior Thesis and Professional Practicum	3cr
(#) Total Degree Requirements:		120

(1) Students must complete 3cr within an advanced studio before permission will be granted to enroll in the 6cr component of the advanced level. Permission of the instructor is a prerequisite to all 6cr advanced courses.

(2) Inclusion of internship credit hours toward any portion of fulfillment of degree requirements must be approved by the departmental chair and student's major advisor. Approval must be obtained in writing prior to enrollment

(3) To enter program, art major must successfully complete the B.F.A Sophomore Review and have minimum 2.5 GPA overall.

(4) Student must achieve an overall 2.5 GPA and earn a grade of C or better in all ART and ARHI courses to graduate.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Bachelor of Science in Education–Art Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		48
Fine Arts: fulfilled by ARHI 205		
Mathematics: 6cr		
Social Science: PSYC 101		
Liberal Studies Electives: 0cr		
College:		23
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 421	Student Teaching (Elementary)	6cr
EDUC 441	Student Teaching (Secondary)	6cr
EDUC 442	School Law	1cr
Major:		24
ART 112	Fundamentals of Drawing	3cr
ART 113	Three-Dimensional Design	3cr
ART 114	Color and Two-Dimensional Design	3cr
ARHI 207	Renaissance to Modern Art	3cr
ARED 315	Issues of Art in K-12 Programs	3cr
ARED 317	Art in K-6 Programs	3cr
ARED 318	Art in 7-12 Programs	3cr
ARED 320	Art Criticism and Aesthetics in K-12	3cr
Controlled Electives:		30
Select 15cr from the following: ARHI 100, ART 111, ART 211, 213, 214, 215, 216, 217, 218, 219		15cr
Select 12cr from any ARHI or ART prefix		12cr
Select 3cr from any ARED prefix		3cr
(#) Total Degree Requirements:		125

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Department of Music

Website: *www.iup.edu/music*

Lorraine P. Wilson, Chairperson; Bird, Chepaitis, Clewell, Dearing, Dickinson, Eisensmith, Ferguson, Fry, Hastings, Horner, Jennings, Kaufmann, Kingan, Koehn, Mantel, Martynuik, Perlongo, Radell, Sartori, Scandrett, Stamp, Staples, Wacker, Wheatley, Worzbyt, Young; and professors emeriti Adams, Becker, Borst, Casavant, DiCicco, Intili, Lloyd, Olmstead, Perkins, Vansteenkist, Weber

The Department of Music has a threefold mission: (1) professional preparation of music educators, performers, composers, conductors, and musicologists, (2) liberal studies for the university, and (3) programs, education, and resources of music for the community. Degrees offered include the Bachelor of Arts, Bachelor of Fine Arts, and Bachelor of Science in Education.

Admission to the Music Department requires satisfactory completion of an audition in addition to the university general requirements. Detailed information will be sent to the applicant upon request.

The program leading to the Bachelor of Arts degree in Music has been designed to give the student a general experience in music. The student seeking this degree has the choice of three tracks: Music/General Studies Track, Music History/Literature, Music Theory/Composition, or Music Performance.

The program leading to the Bachelor of Fine Arts degree in Music (equivalent to the Bachelor of Music Degree) is a special program with a major in one of twenty-one areas of performance. The student in this program prepares to pursue a career as a professional performing musician.

The program leading to the Bachelor of Science in Education with a music major leads to certification to teach in the schools of Pennsylvania.

A student wishing to minor in music must elect a minimum of 15 credits in music courses as approved by the department chairperson.

Special Requirements

1. Each student must declare a primary performing medium. Those who elect voice as their primary instrument normally elect piano as a secondary instrument. Performance juries are held at the end of each semester. Students are expected to complete the requirements for their performing area and level. Piano proficiency is required in all degree programs.
2. Ensemble participation of 5 hours a week is required each semester Students may fulfill this departmental requirement by participation in either 1-credit or 0-credit ensemble(s). In meeting the degree requirements of 7-8 credits of ensemble credit, enrollment in credit-bearing ensembles is flexible across semesters.
3. Students must register for MUSC 475 (Music Lab) and attend 4 departmental meetings and 8 campus recitals and concerts 7-8 semesters as required by degree program.

Bachelor of Arts–Music/History and Literature Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Fine Arts: MUHI 102
Mathematics: MATH 101 or other Liberal Studies Mathematics
Natural Science: Option II recommended, PHYS 105
Social Science: PSYC 101
Liberal Studies Electives: 6cr, MUHI 301, no courses with MUHI prefix

Major: 48
Required Courses: (1)

APMU 124	(Major) Applied Piano Jury C	0cr
MUHI 302	Music History II	3cr
MUSC 111	Theory Skills I	2cr
MUSC 112	Theory Skills II	2cr
MUSC 115	Theory I	3cr
MUSC 116	Theory II	3cr
MUSC 120-136	8 semesters of Music Ensembles	8cr
MUSC 211	Theory Skills III	2cr
MUSC 212	Theory Skills IV	2cr
MUSC 215	Theory III	3cr
MUSC 216	Theory IV	3cr
MUSC 311	Fundamentals of Conducting	2cr
MUSC 475	8 semesters of Recital Attendance	0cr
Five courses from the following:		
	MUHI 322, 323, 324, 325, 420, 421	15cr

Controlled Electives: 9
Music electives (with advisor approval)

Free Electives: 13

Total Degree Requirements: 120

(1) Students may satisfy any Theory Class by passing the final exam prior to or at the beginning of any given semester and then enrolling in Section 011 of the course for 0cr; the student's grade would be recorded as "Satisfactory" on the transcript.

Bachelor of Arts–Music/General Studies Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Fine Arts: MUHI 102
Mathematics: MATH 101 or other Liberal Studies Mathematics
Natural Science: Option II recommended, PHYS 105
Social Science: PSYC 101
Liberal Studies Electives: 6cr, MUHI 301, no courses with MUSC prefix

Major: 49
Required Courses: (1)

APMU (Major)	Applied Music I-VIII (2cr each)	16cr
APMU 122	(Major) Applied Jury A	0cr
MUHI 302	Music History II	3cr
MUSC 111	Theory Skills I	2cr
MUSC 112	Theory Skills II	2cr
MUSC 115	Theory I	3cr
MUSC 116	Theory II	3cr
MUSC 120-136	8 semesters of Music Ensembles	8cr
MUSC 211	Theory Skills III	2cr
MUSC 212	Theory Skills IV	2cr
MUSC 215	Theory III	3cr
MUSC 216	Theory IV	3cr
MUSC 311	Fundamentals of Conducting	2cr
MUSC 475	8 semesters of Recital Attendance	0cr

Controlled Electives: 5
Music Electives (with advisor approval or as indicated below):

MUSC 217/ 218	Keyboard Harmony I and II (required for piano and organ majors only)	2cr
MUSC 351/ 353/354	Italian/French/German Diction and Literature (required for voice majors only)	3cr

Free Electives: 16

Total Degree Requirements: 120

(1) Students may satisfy any Theory Class by passing the final exam prior to or at the beginning of any given semester and then enrolling in Section 11 of the course for 0cr; the student's grade would be recorded as "Satisfactory" on the transcript.

Bachelor of Arts–Music/Theory and Composition Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Fine Arts: MUHI 102
Mathematics: MATH 101 or other Liberal Studies Mathematics
Natural Science: Option II recommended, PHYS 105
Social Science: PSYC 101
Liberal Studies Electives: 6cr, MUHI 301, no courses with MUSC prefix

Major: 60
Required Courses: (1)

APMU	Applied Piano I-VII	14cr
MUHI 302	Music History II	3cr
MUSC 111	Theory Skills I	2cr
MUSC 112	Theory Skills II	2cr
MUSC 115	Theory I	3cr

MUSC 116	Theory II	3cr
MUSC 120-136	4 semesters of Music Ensembles	4cr
MUSC 211	Theory Skills III	2cr
MUSC 212	Theory Skills IV	2cr
MUSC 215	Theory III	3cr
MUSC 216	Theory IV	3cr
MUSC 217	Keyboard Harmony I	1cr
MUSC 218	Keyboard Harmony II	1cr
MUSC 304	Form and Analysis I *or*	2cr
MUSC 309	Orchestration I	
MUSC 306	Counterpoint I	2cr
MUSC 311	Fundamentals of Conducting	2cr
MUSC 315	Theory V	3cr
MUSC 411	Composition I	2cr
MUSC 412	Composition II	2cr
MUSC 413	Composition III	2cr
MUSC 414	Composition IV	2cr
MUSC 475	8 semesters of Recital Attendance	0cr

Controlled Electives: 4
Music Electives (with advisor approval)

Free Electives: 6

Total Degree Requirements: 120

(1) Students may satisfy any Theory Class by passing the final exam prior to or at the beginning of any given semester and then enrolling in Section 11 of the course for 0cr; the student's grade would be recorded as "Satisfactory" on the transcript.

Bachelor of Fine Arts–Music Performance

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Fine Arts: MUHI 102
Mathematics: MATH 101 or other Liberal Studies Mathematics
Natural Science: Option II recommended, PHYS 105
Social Science: PSYC 101
Liberal Studies Electives: 6cr, MUHI 301, no courses with MUSC prefix

Major: 65
Required Courses: (1)

APMU (Major)	Applied Music I-VIII (4cr each)	32cr
APMU 122	(Major) Applied Jury A	0cr
MUHI 302	Music History II	3cr
MUSC 111	Theory Skills I	2cr
MUSC 112	Theory Skills II	2cr
MUSC 115	Theory I	3cr
MUSC 116	Theory II	3cr
MUSC 120-136	8 semesters of Music Ensembles	8cr
MUSC 211	Theory Skills III	2cr
MUSC 212	Theory Skills IV	2cr
MUSC 215	Theory III	3cr
MUSC 216	Theory IV	3cr
MUSC 311	Fundamentals of Conducting	2cr
MUSC 475	8 semesters of Recital Attendance	0cr

Controlled Electives: 5
Music Electives (with advisor approval or as indicated below):

MUSC 217/ 218	Keyboard Harmony I and II (required for piano and organ majors only)	2cr
MUSC 351/ 353/354	Italian/French/German Diction and Literature (required for voice majors only)	3cr

Total Degree Requirements: 120

(1) Students may satisfy any Theory Class by passing the final exam prior to or at the beginning of any given semester and then enrolling in Section 11 of the course for 0cr; the student's grade would be recorded as "Satisfactory" on the transcript.

Bachelor of Science in Education–Music Education (*)

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Fine Arts: fulfilled by courses in the major
Humanities: HIST 195 (section for Music majors), MUHI 102 (Music Education majors only)
Mathematics: 6cr, MATH 101 or 110; MATH 217
Natural Science: Option I recommended
Social Science: PSYC 101
Liberal Studies Electives: 3cr, MUHI 301, no course with MUSC prefix

College:
Professional Education Sequence: 27

EDSP 102	Educational Psychology	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 421	Student Teaching Elementary Level	6cr
EDUC 441	Student Teaching Secondary Level	6cr
EDUC 442	School Law	1cr
MUSC 240	Technology in the Music Classroom	2cr
MUSC 331	Elementary Methods	2cr
MUSC 333	Instrumental Methods	2cr
MUSC 335	Music for Students with Disabilities in Inclusive Settings	1cr
MUSC 337	General/Choral Methods	2cr

Major: (1) 51
Required Courses:

APMU	(Major) Applied Music I-VII	14cr
APMU 122	(Major) Applied Jury A	0cr
MUHI 302	Music History II	3cr
MUSC 111	Theory Skills I	2cr
MUSC 112	Theory Skills II	2cr
MUSC 115	Theory I	3cr
MUSC 116	Theory II	3cr
MUSC 120-136	7 semesters of Music Ensembles	0cr
MUSC 211	Theory Skills III	2cr
MUSC 212	Theory Skills IV	2cr
MUSC 215	Theory III	3cr
MUSC 216	Theory IV	3cr
MUSC 311	Fundamentals of Conducting	2cr
MUSC 475	7 semesters of Recital Attendance	0cr

Concentration area coorses: (select one concentration)
Vocal Concentration

APMU	Piano (minor) I-IV	4cr
APMU 123	Applied Piano Jury B	0cr

Choose two of the following Class Instrument courses:

MUSC 155, 157, 159, 161		2cr
MUSC 351/353/354		3cr

Instrumental Concentration

APMU 124	Applied Piano Jury C	0cr
MUSC 151	Class Voice I	1cr
MUSC 152	Class Voice II	1cr
MUSC 153	Class Piano I	1cr
MUSC 154	Class Piano II	1cr
MUSC 155	Class Strings I	1cr
MUSC 157	Class Percussion I	1cr
MUSC 159	Class Brass I	1cr
MUSC 161	Class Woodwinds I	1cr

Controlled Electives: choose electives from the following to create a total of 51cr in Major Required Courses area:

APMU	Instrument (minor) I-IV (1cr each)	1cr
MUSC 120	Music Ensembles (0-1 cr each)	1cr

MUSC 155-162	Class Instruments II (1cr each)	1cr
MUSC 163	Class Guitar I	2cr
MUSC 224	Jazz Improvisation Techniques I	2cr
MUSC 300	Black Music in America and Diaspora	3cr
MUSC 306	Counterpoint I	2cr
MUSC 309	Orchestration I	2cr
MUSC 312	Choral Conducting	2cr
MUSC 313	Instrumental Conducting	2cr
MUSC 315	Theory V	3cr
MUSC 340	Woodwind Instrument Repair	2cr
MUSC 411	Composition I	2cr
MUSC 493	Internship in Music	1cr

Total Degree Requirements: 126

(*) Also see requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) Students may satisfy any Theory Class or Class Instrument/Minor Instrument requirement by

A. Theory–Passing the final exam prior to or at the beginning of any given semester and then enrolling in Section 011 of the course for 0cr; the student's grade would be recorded as "Satisfactory" on the transcript.

B Class instrument or minor applied area–Passing the B or C required jury (0cr) before enrolling in class instruments or a minor applied course; the student's grade would be recorded as "Satisfactory" on the transcript.

Department of Theater and Dance

Website: *www.iup.edu/theater*

Barbara S. Blackledge, Chairperson; Ault, Boda, Bowes, Jones, Liberta, McCreary, Simpson, J. Van Dyke; and professors emeriti Eisen, Lommock

The Department of Theater and Dance is dedicated to both theater and dance as collaborative and highly disciplined fields offering an extended view of the world as a part of a liberal and humanistic education. Successful students develop an artistic sensibility and a disciplined work ethic, skills necessary in most endeavors. The department is committed to:

1. providing comprehensive coursework from introductory through advanced levels of study, in all major areas of theater and dance
2. providing diverse production opportunities at all levels to challenge students as artists by developing proficiency in one or more of the areas of playwriting, research, performance, and production while stimulating the intellectual growth of both students and faculty
3. augmenting and complementing the aesthetic offerings of the university community
4. establishing a work ethic of collaboration, personal discipline, and respect

The Department of Theater and Dance offers a Bachelor of Arts degree, a dance minor, and a theater minor. The B.A. in Theater provides for the study of theater within a broad liberal arts education. The minor in dance totals 18 controlled credits, while a minor in theater consists of 15 credits in Theater coursework approved by the chairperson of the department. Theater and dance courses are also an option in the Interdisciplinary Fine Arts degree offered by the College of Fine Arts.

As a practical extension of the academic program, the Department of Theater and Dance offers a variety of production opportunities in the Theater-by-the-Grove Mainstage and Studio theaters. The IUP Dance Theater performs twice annually.

Admission to the Theater program requires satisfactory completion of an audition or interview, in addition to the university's general admission requirements. Detailed information will be sent to applicants upon request.

The Department of Theater and Dance is a fully accredited institutional member of the National Association of Schools of Theater (NAST).

Bachelor of Arts–Theater

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Fine Arts: ARHI 101, DANC 102, or MUHI 101
Mathematics: 3cr
Liberal Studies Electives: 9cr, no courses with THTR prefix

Major: 40

Required Courses:

THTR 111	Foundations of Theater	3cr
THTR 116	Fundamentals of Theatrical Design	3cr
THTR 205	Classic Theater I *or*	3cr
THTR 206	Classic Theater II	
THTR 207	Modern Theater I *or*	3cr
THTR 208	Modern Theater II	

Core Courses: (minimum of 6cr from each area)

Technical Core:

THTR 120	Stagecraft	3cr
THTR 122	Costume Workshop	3cr
THTR 221	Basic Stage Lighting	3cr

Performance Core:

THTR 130	Stage Voice *or*	3cr
THTR 131	Stage Movement	
THTR 240	Acting I	3cr
THTR 350	Directing	3cr

Production Practicum: (1)

THTR 486	Practicum in Production	4cr

Theater Concentration Electives: concentrate in one or two of the following areas: 9cr

Area A: Design/Tech (in addition to any of the technical core beyond the 6cr required)

THTR 320	Scene Design	3cr
THTR 321	Stage Lighting Design	3cr
THTR 322	Costume Design	3cr
THTR 323	Sound Design	3cr
THTR 324	Advanced Stagecraft	3cr
THTR 489	Technical Theater Problems	3cr

Area B: Performance (in addition to any of the performance core beyond the 6cr required)

THTR 340	Acting II	3cr
THTR 341	Acting Styles	3cr
THTR 342	Acting Shakespeare	3cr
THTR 484	Directing Studio	3cr
THTR 487	Acting Studio	3cr

Area C: Musical Theater (2) 3cr

DANC 150	Fundamentals of Dance	3cr
DANC 250	Contemporary Dance	3cr
DANC 260	Jazz Dance	3cr
DANC 270	Ballroom and Tap Dance	3cr
DANC 280	Ballet	3cr
DANC 290	Ethnic Dance	3cr
DANC 485	Dance Studio	3cr
THTR 341	Acting Styles	3cr
THTR 487	Acting Studio	3cr

Area D: Theater History and Theory (3)

THTR 310	Theater Criticism	3cr
THTR 347	Playwriting	3cr
THTR 350	Directing	3cr

Theater Electives:

Choose an additional course either from any THTR course listed above or any of the following.
THTR 223, 281, 310, 345, 347, 481, 483, 493

Free Electives: 27

Total Degree Requirements: 120

(1) 4cr over a minimum of six semesters including one semester for senior year project
(2) In addition to auditioning for limited seats in applied voice lessons from the Music Department, students could choose at least one acting class and at least one dance class from the listings in this category. It is important to note that courses serving this major requirement cannot also serve a dance minor requirement.
(3) In addition to taking all four of the Classic and Modern Theater courses for 6 of the 9cr required in this concentration, an additional 3cr can be chosen from the courses in this category (assuming that they are not already serving another major requirement) or from specially defined THTR 281/481/483 courses.

Dance Minor

The Dance Minor program provides a foundation for those interested in teaching dance, working with a dance company, managing a private dance studio, working with theater productions, or desiring a broad-based education within the dance discipline.

The Dance Minor is an 18-credit program with 9 required credits and 9 elective credits. The required credits include the pertinent foundation courses and higher-level theory courses. The required courses also provide design elements of production, fundamental and historical theories of dance, and dance choreographic and teaching theories that cannot be obtained in any of the elective courses. The elective credits include the technique courses.

The Dance Minor is based on the National Standards for Arts Education dance requirements. Using this basis for the program ensures fundamental preparation for a number of student needs, for example, the dance teacher, the performer, and/or the dance studio owner.

The program is also designed to fulfill the needs of a Liberal Arts minor in dance. Through advisement, the minor program can serve the individual student's needs. The program would be of interest to secondary and elementary education majors, small business majors, recreation and physical education majors, and anyone else that has an interest in dance and wants to broaden his or her Liberal Arts education.

Minor–Dance (1) **18**

Required Courses: 9

THTR 116	Fundamentals of Theatrical Design	3cr

One of the following:

DANC 102	Introduction to Dance	3cr
DANC 150	Fundamentals of Dance	3cr

One of the following:

DANC 351	Choreography	3cr
DANC 353	Dance Curriculum and Instruction	3cr

Any three of the following as advised: 9

DANC 150	Fundamentals of Dance (1)	3cr
DANC 250	Contemporary Dance	3cr
DANC 260	Jazz Dance	3cr
DANC 270	Ballroom and Tap Dance	3cr
DANC 280	Ballet	3cr
DANC 290	Ethnic Dance	3cr
DANC 485	Dance Studio	3cr

(1) Fundamentals of Dance cannot be counted twice.

The College of Health and Human Services

Carleen C. Zoni, Dean
Vacant, Associate Dean
Website: *www.iup.edu/healthhumanserv*

The College of Health and Human Services comprises eight multifaceted departments which offer programs leading to seventeen baccalaureate degrees and five master's degrees, three minors, two credit-bearing certificate programs, and one noncredit certificate program. The departments in the college are Culinary Arts; Food and Nutrition; Health and Physical Education; Hospitality Management; Human Development and Environmental Studies; Industrial and Labor Relations; Nursing and Allied Health Professions; and Safety Sciences.

The college offers degrees in areas relevant to workforce needs and prides itself on having established a learning-centered environment in which the curricula bridge theory and practice. Hands-on fieldwork, observations, clinical experiences, internships, cooperative education, and service-learning opportunities are regular components of the curricula and provide valuable learning experiences for students. Instructional methods are often cooperative and collaborative, affording students the opportunity to understand what they can contribute to and gain from collective efforts. Discovery-based instruction provides opportunities to learn about a discipline by practicing in the field. Media technology, an ever-expanding resource, provides access to worldwide information. Faculty members recognize the central role of the learner in the learning process and strive to create integrated, holistic learning environments. The focus on learning is a commitment to the continuous improvement of the quality of education offered by the college.

The mission of the College of Health and Human Services is to serve the public interest by preparing professionals for applied professional disciplines. Graduates will be compassionate, affirm high personal and professional standards, provide future leadership, and they will be committed to creating and advancing knowledge in their discipline.

College Majors
- Child Development/Family Relations
- Clinical Laboratory Science
- Criminology (Pre-law Track available)
- Culinary Arts (nondegree Certificate program)
- Family and Consumer Sciences Education
- Fashion Merchandising
- Health and Physical Education
- Hospitality Management
- Industrial and Labor Relations (graduate program only)
- Interior Design
- Nuclear Medicine Technology
- Nutrition (Tracks available: Dietetics, Nutrition)
- Nursing
- Physical Education and Sport (Tracks available: Aquatics, Athletic Training, Exercise Science, Sport Administration)
- Respiratory Care
- Safety Sciences

College Minors
- Child Development
- Criminology
- Information Assurance
- Nutrition
- Safety Sciences

Credit Certificate Programs
- Police Academy Training
- Driver Education
- Gerontology

Department of Criminology

Website: *www.iup.edu/criminology*
Dennis M. Giever, Chairperson; Austin, Gibbs, Gido, Gossett, Hanrahan, Lee, J. Martin, R. Martin, McCauley, Merlo, Mutchnick, Myers, Roberts, Wilson, Zimmerman; and professor emerita Moyer

The Department of Criminology offers students seeking careers in criminology a broad liberal arts education that encourages them to think critically about crime and justice issues and also prepares them for careers in the criminal justice system. The degrees offered are the Bachelor of Arts with a major in Criminology and the Bachelor of Arts with a major in Criminology Pre-Law track. Additionally, students may minor in Criminology. Through the School of Graduate Studies and Research, the department also offers graduate work at both the master's and doctoral level.

The program in Criminology has a fivefold objective:
1. The education of students for employment and leadership in the expanding field of criminology and criminal justice
2. The education of presently employed criminal justice personnel who recognize a need for furthering their education
3. The instruction of students who wish to acquire an understanding of the processes of criminal justice as a cultural part of their higher education
4. The instruction of students who wish to prepare for graduate study and/or research in criminology
5. A curriculum that provides an excellent foundation for students preparing for a career in law

Nearly every level of government offers opportunities for professional careers in criminology. For example, employment opportunities normally exist in more than fifty federal agencies (e.g., Federal Bureau of Investigation, U.S. Department of Treasury, Federal Bureau of Prisons). Graduates also will find employment in local and state organizations including law enforcement (e.g., Pennsylvania State Police, various municipal police departments) and correctional agencies (e.g., probation, parole, Pennsylvania Department of Corrections). Additionally, there are a wide variety of opportunities in the expanding fields of private, commercial, and industrial security, including cybersecurity. Furthermore, many governmental agencies have specialized units dealing with juveniles, community relations, training, education, and research.

Career opportunities also are available in research and teaching at the college and university levels and in research divisions of various agencies.

Students who wish to change their major to Criminology or Criminology/Pre-Law track, or to minor in Criminology, must have an overall GPA of 2.5 at the time of application to be accepted formally by the department.

Bachelor of Arts–Criminology

Liberal Studies: As outlined in Liberal Studies section with the following specifications:	51
Mathematics: MATH 217	
Natural Science: CHEM 111-112 or BIOL 103-104 recommended	
Social Science: CRIM 101	
Liberal Studies Electives: 6cr, no courses with CRIM prefix	
Foreign Language Intermediate Level (1):	0-6

Major: 39

Required Courses:

CRIM 102	Survey of Criminology	3cr
CRIM 306	Criminological Research Methods	3cr
CRIM 400	Theoretical Criminology	3cr
CRIM 401	Contemporary Issues in Criminology	3cr
CRIM 403	Dilemmas in Criminology and Criminal Justice	3cr

Controlled Electives: select two from each group

Group A: The Criminal Justice System		6cr
CRIM 205	Law Enforcement and the Community	
CRIM 215	Survey of Courts and the Criminal Justice System	
CRIM 225	Survey of Corrections	
CRIM 235	Survey of Juvenile Justice and Juvenile Law	
CRIM 255	Law, Social Control, and Society	
Group B: Critical Issues in Criminology		6cr
CRIM 354	White Collar Crime	
CRIM 374	Environmental Crime and Justice	
CRIM 384	Violence and Victimology	
CRIM 394	Crime and Delinquency Prevention	
Group C: Diversity Issues in Criminology		6cr
CRIM 410	Race, Ethnicity, Social Structure, and Crime	
CRIM 450	Women and Crime	
CRIM 470	Comparative Study of Justice	

Two CRIM electives 6cr (2)

Minor/Concentration: 18-21

Free Electives: 3-12

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

(2) No more than 6cr of CRIM 493 may be applied to 39cr minimum in major.

Bachelor of Arts–Criminology/Pre-Law Track

Liberal Studies: As outlined in Liberal Studies section 51
with the following specifications:
Mathematics: MATH 217
Natural Science: CHEM 111-112 or BIOL 103-104 recommended
Social Science: CRIM 101
Liberal Studies Electives: 6cr, no courses with CRIM prefix

Foreign Language Intermediate Level (1): 0-6

Major: 39

Required Courses:

CRIM 102	Survey of Criminology	3cr
CRIM 306	Criminological Research Methods	3cr
CRIM 400	Theoretical Criminology	3cr
CRIM 401	Contemporary Issues in Criminology	3cr
CRIM 403	Dilemmas in Criminology and Criminal Justice	3cr

Controlled Electives: select two from each group

Group A: The Criminal Justice System		6cr
CRIM 205	Law Enforcement and the Community	
CRIM 215	Survey of Courts and the Criminal Justice System	
CRIM 225	Survey of Corrections	
CRIM 235	Survey of Juvenile Justice and Juvenile Law	
CRIM 255	Law, Social Control, and Society	
Group B: Critical Issues in Criminology		6cr
CRIM 354	White Collar Crime	
CRIM 374	Environmental Crime and Justice	
CRIM 384	Violence and Victimology	
CRIM 394	Crime and Delinquency Prevention	
Group C: Diversity Issues in Criminology		6cr
CRIM 410	Race, Ethnicity, Social Structure, and Crime	
CRIM 450	Women and Crime	
CRIM 470	Comparative Study of Justice	

Two CRIM electives 6cr (2)

Other Requirements: Pre-Law interdisciplinary track 15-21
Seven courses, including at least one from each of six areas:
Business: ACCT 201, ACCT 202, BLAW 235
Economics: ECON 121, 122, 332
English: ENGL 212, 220, 310
History: HIST 320, 321, 346
Philosophy: PHIL 101, 222, 450
Political Science: PLSC 358, 359, 361

Free Electives: 3-15

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

(2) No more than 6cr of CRIM 493 may be applied to 39cr minimum in major.

Minor–Criminology (1, 2) **18**

Required Courses:

CRIM 101	Crime and Justice Systems	3cr (3)
CRIM 102	Survey of Criminology	3cr
CRIM 401	Contemporary Issues in Criminology	3cr
CRIM 403	Dilemmas in Criminology and Criminal Justice	3cr

Two additional CRIM electives, one chosen from 6cr (4, 5)
Controlled Electives Group B and one from Group C.

(1) Must have formal Criminology Department approval to be admitted to minor in Criminology.

(2) Must have an overall 2.5 GPA to declare the minor.

(3) Meets Liberal Studies Social Science requirement.

(4) For students in the Computer Science Information Assurance major, CRIM 321 may be substituted for Group B elective.

(5) For students in the Computer Science Information Assurance major, CRIM 323 may be substituted for Group C elective.

Minor–Information Assurance (1) **18**

Required Courses:

COSC 110	Problem Solving and Structured Programming	3cr (2)
COSC 316	Cybersecurity Basics	3cr
COSC 352	LAN Design and Installation	3cr
CRIM 101	Crime and Justice Systems (2) *or*	3cr
CRIM 102	Survey of Criminology (2)	
CRIM 321	Cybersecurity and Loss Prevention	3cr
CRIM 323	Cybersecurity and the Law	3cr

(1) Computer Science majors in the Information Assurance Track are not eligible to take this minor; instead, they must take a Criminology minor.

(2) Computer Science majors cannot count COSC 110; instead, they must take one additional course from the following: CRIM 300, 355, 400, 401, 481, 482

(3) Criminology majors cannot count CRIM 101 or 102; instead, they must take one additional course from the following: COSC 341, 356, 362, 427, 432, 482, HMG 382.

Criminal Justice Training Center (CJTC)

The CJTC provides high-quality education and training programs for the continuing professionalism of the criminal justice system. The CJTC is one of only seventeen schools in the commonwealth certified to offer Act 120 training, which is a 750-hour program that qualifies graduates to be municipal police officers. The police academy is located at the main campus at IUP and various satellite locations. The center also offers programs for in-service personnel in fulfillment of annual mandatory continuing education requirements and nonmandatory courses such as Basic and Advanced Accident Investigation, Perceptual Driving, and Instructor Development. Lethal Weapons Training, Act 235, provides the basic requirements and mandatory recertification for armed security personnel. Visit the website *www.iup.edu/crimjustice* for more information.

Department of Culinary Arts

Website: *www.iup.edu/culinary*
Albert S. Wutsch, Chairperson; Blake, Brown, DeMane, Fitting, Klinger, Pike, Wygonik

The Department of Culinary Arts offers a four-semester (sixteen calendar months), competency-based, noncredit certificate program. This distinctive program provides hands-on learning experiences, including fundamental culinary theory and on-the-job work experience, giving each student the necessary skills and knowledge to begin a successful career in the field of culinary arts. During the last semester of study, students are placed with a distinguished employer in a prestigious resort or restaurant for a paid externship experience. This contemporary approach to learning enables students to achieve advanced levels of proficiency in both culinary techniques and business management skills while they advance through the certificate program. Through internal articulation agreements, graduates may transfer up to 42 credits of coursework toward a baccalaureate degree in Hospitality Management and up to 37 credits toward a Bachelor of Science degree in Nutrition. In addition, an optional summer European Study Tour is offered through which students may earn 3 credits.

The program holds accreditation by the American Culinary Federation and is offered at the Academy of Culinary Arts in Punxsutawney, Pennsylvania.

Department of Food and Nutrition

Website: *www.iup.edu/foodnutrition*
Susan S. Dahlheimer, Chairperson; Barker, Johnson, Taylor-Davis, Wagoner; and professors emeritae Minnick, Steiner

The Department of Food and Nutrition offers a degree program in nutrition with two tracks, dietetics and general nutrition. Within the degree program, students select a natural science option determined by their academic preparation and career goals. This curriculum prepares students as professionals for a diversity of career opportunities in food service, the food industry, food and nutrition research, and health care.

In addition, the department provides Liberal Studies courses which are available to all university students. These include FDNT 143, an option in the university's Liberal Studies requirements for Health and Wellness; FDNT 145, a Liberal Studies elective; and three LBST 499 synthesis courses (Food and Culture, The Battle for Perfection, and Screen Cuisine).

Dietetics Track

Students who complete the Dietetics Track (Didactic Program in Dietetics) meet the academic requirements as accredited by the Commission on Accreditation for Dietetics Education of the American Dietetic Association. This track will prepare an individual to serve as a translator of food and nutrition science information for members of the larger community with respect to healthful food preparation, healthy eating behaviors, medical nutrition therapy, management of nutrition delivery and food service systems, and advocacy for the profession of dietetics. The individual who completes this program will exhibit an in-depth knowledge of food, nutrition, behavioral sciences, and management theory and be able to apply this knowledge to solve problems.

Nutrition Track

The Nutrition Track allows students to plan a curriculum based upon career goals other than becoming a registered dietitian. Career opportunities for these students include public health, food service administration, culinary arts, journalism, communications, business, and gerontology.

Students who wish to pursue a career in food and nutrition research should select the Natural Science Option II plus the nutrition track to acquire a foundation for theoretical and applied food science and nutrition. This option meets the needs of students who wish to enter careers in food/nutrition which require a graduate education.

Nutrition Minor

This minor sequence is recommended for students majoring in the related health disciplines such as child development, family and consumer sciences education, nursing and allied health, food service management, and health and physical education. Students electing a minor in nutrition must complete 15 credits of coursework from the courses listed. The completion of this minor neither meets the requirements for practice as a credentialed nutritionist nor satisfies the academic requirements of the Commission on Registration for the American Dietetic Association as a registered dietitian. For additional information, contact the Food and Nutrition Department.

Bachelor of Science–Nutrition/Dietetics Track

Liberal Studies: As outlined in Liberal Studies section — 48
with the following specifications:
Health and Wellness: HPED 143
Mathematics: MATH 217
Natural Science: CHEM 101-102 or 111-112
Social Science: ECON 101 or 121, PSYC 101, SOC 151
Liberal Studies Electives: 3cr, no courses with FDNT prefix

Major:

Required Courses:		25
FDNT 110	Careers in Food and Nutrition	1cr
FDNT 150	Foods	3cr
FDNT 151	Foods Laboratory	1cr
FDNT 212	Nutrition	3cr
FDNT 213	Life Cycle Nutrition	3cr
FDNT 355	Nutrition in Disease I	3cr
FDNT 362	Experimental Foods	3cr
FDNT 458	Advanced Human Nutrition	4cr
FDNT 470	Human Food Consumption Patterns	3cr
FDNT 484	Senior Seminar	1cr
Controlled Electives:		28
Dietetics Track:		
FDNT 364	Methods of Teaching	3cr
FDNT 402	Community Nutrition	3cr
FDNT 430	Professional Topics in Food and Nutrition	3cr
FDNT 455	Nutrition in Disease II	3cr
FDNT 463	Nutrition Counseling	3cr
HRIM 256	Human Resources in the Hospitality Industry	3cr
HRIM 259	Hospitality Purchasing	3cr
HRIM 313	Food Production and Service	4cr
MGMT 310	Principles of Management	3cr
Other Requirements: Natural Science Sequence:		13
BIOL 105, 155, 241, CHEM 255		13cr
Free Electives:		6
Total Degree Requirements:		120

Bachelor of Science–Nutrition/Nutrition Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Health and Wellness: HPED 143
Mathematics: MATH 217
Natural Science: CHEM 101-102 or 111-112
Social Science: ECON 101 or 121, PSYC 101, SOC 151
Liberal Studies Electives: (1) 3cr, no courses with FDNT prefix

Major: 25
Required Courses:

FDNT 110	Careers in Food and Nutrition	1cr
FDNT 150	Foods	3cr
FDNT 151	Foods Laboratory	1cr
FDNT 212	Nutrition	3cr
FDNT 213	Life Cycle Nutrition	3cr
FDNT 355	Nutrition in Disease I	3cr
FDNT 362	Experimental Foods	3cr
FDNT 458	Advanced Human Nutrition	4cr
FDNT 470	Human Food Consumption Patterns	3cr
FDNT 484	Senior Seminar	1cr

Controlled Electives: 10-28
Nutrition Track (non-DPD):
FDNT electives (300 level and above, internship of 3cr strongly recommended) 6cr
Program minor, certificate, second major, or core concentration required for program completion (2) 4-22cr

Other Requirements: 13
Natural Science Sequence:
BIOL 105, 155, 241, CHEM 255 13cr

Free Electives: 6-24

Total Degree Requirements: 120

(1) For the Gerontology Certificate, PHIL 405 or 400 or PSYC 378 can be applied as a Liberal Studies Elective. For the Business Administration minor, ECON 122 can be applied as a Liberal Studies Elective.
(2) Select one of the following:
- Minor in Business Administration, Chemistry, Communications Media, Educational Technology, Journalism, Natural Sciences, Psychology, or Psychology Science
- Certificate in Culinary Arts or Gerontology
- Core concentration in Hospitality Management (FDNT 150, 151, HRIM 101, 256, 259, 265, 313, 402, HRIM 3cr elective) or Physical Education and Sport (HPED 319, 410, 411, 492, and HPED 343 or 375 or 412)

Minor–Nutrition **15**

Required Courses:

FDNT 212	Nutrition	3cr
FDNT 213	Life Cycle Nutrition	3cr
FDNT 245	Sports Nutrition	3cr (1)
FDNT 355	Nutrition in Disease I	3cr
FDNT 470	Human Food Consumption Patterns ***or***	3cr
FDNT 402	Community Nutrition	

(1) Students not interested in FDNT 245 may select both FDNT 402 and 470 in place of FDNT 245.

Department of Health and Physical Education

Website: *www.iup.edu/healthphysed*
Elaine H. Blair, Chairperson; Ronald L. Trenney, Assistant Chairperson; Alman, Bayles, Black, Clark, Cortazzo, Deutschlander, Klingaman, Kostelnik, Lorenzi, McKee, Rivera, Robinson, Sloniger, Smith, Temes; and professors emeriti Aierstock, Beck, Blacksmith, Clark, Dakak, Davis, Dickie, Eltz, Godlasky, Grove, Hornfeck, Liscinsky, Mill, Moore, Neal, Sledzik, Sloniger, Sutton, Tucker

The Department of Health and Physical Education provides the following services:
1. instruction in health and wellness courses as part of the university's Liberal Studies requirement
2. instruction in health and physical education courses as Physical Education course electives
3. an undergraduate major in health and physical education that leads to the Bachelor of Science degree in Education with potential certification to teach in the Commonwealth of Pennsylvania
4. Bachelor of Science degree in Physical Education and Sport which includes the specialty tracks of Aquatics, Athletic Training, Exercise Science, and Sport Administration
5. Certification program in Driver Education

Required Program–Liberal Studies

The department, through its Health and Wellness course in the Liberal Studies program, seeks to enhance the overall well-being of students through instruction planned to promote and maintain desirable levels of physical, mental, emotional, and social well-being. Self-responsibility in the following dimensions of wellness is emphasized: nutritional awareness, stress awareness and management, exercise and fitness, substance use and abuse, and sexually transmitted diseases/AIDS. The importance of reducing risk factors for chronic degenerative disease and managing lifestyle factors for promotion of health is presented with implication for both the present and future. Information is provided during class lectures and enhanced by a variety of practical learning experiences which give students opportunities for self-assessment and personal application of the subject matter.

In addition, the department offers a variety of 1-credit activity courses focusing on physical fitness and the development of skills essential for recreation and lifetime sports. Instruction is offered in many activities including golf, resistive exercise, scuba, swimming, and tennis.

The university's Liberal Studies requirements require that each student successfully complete HPED 143 or its alternate, FDNT 143. Students may also elect to take 4 credits of the ROTC program (MLSC 101-102) as an alternate to the wellness courses. Activity courses will continue to be offered, although they are no longer required. It is encouraged and recommended that students choose these courses as elective credits.

Bachelor of Science Degree–Physical Education and Sport

The Bachelor of Science degree in Physical Education and Sport provides greater emphasis on subject matter/content and less on pedagogy. Students who select this major generally apply their knowledge in the areas of exercise science, community and corporate fitness, cardiac rehabilitation, sports medicine, and/or executive fitness programming. The sports study major is a non-teacher certification program. Students enrolled in this program may be required to purchase a personal liability insurance policy. This will be necessary before beginning the preprofessional experience, the internship, or any other clinical experience on or off campus.

Four specialty tracks of study have been developed for the degree program in Physical Education and Sport. These tracks, in addition to the Nutrition minor within the Physical Education and Sport major, and a business minor in conjunction with the Sport Administration track, provide students with an innovative, relevant, and challenging curriculum and at the same time

encourage the promotion of interdisciplinary work. Course content is focused toward specific professions within the major, as well as toward different national credentialing possibilities. Student internships and pre-professional experiences can be more appropriately focused to enhance opportunities for postgraduate employment. Furthermore, these tracks provide emphasis in specific subject content areas and teach skills necessary for students to assume leadership roles in careers related to the health fitness industry as well as the sport science industry.

Aquatics Track
This track of study is designed to provide students with the knowledge and skills necessary to obtain leadership roles, both instructional and administrative, in a verity of professional settings. These opportunities include school districts, both for profit and nonprofit community organizations, and aquatic coaching.

Exercise Science Track
The Exercise Science program is endorsed by the American College of Sports Medicine. Exercise Science students prepare for a variety of careers in the health and fitness industry. Positions are available in private and commercial fitness clubs, medical fitness facilities, profit and nonprofit community organizations, cardiac rehabilitation programs, and aging services. Students may also wish to use this track of study to prepare for graduate education in such areas as exercise physiology, physical and occupational therapy, and other allied health programs.

Sport Administration Track
This program prepares students to use a variety of skills to function in a management capacity within the sport industry. Through an array of controlled elective courses, students have the ability to tailor their education to a specific area of interest, e.g., athletic administration, coaching, and sports marketing. Graduates of this program can seek employment in such areas as school and collegiate athletic departments, community recreational organizations, professional sport teams, as well as a host of other athletic and sports related industries. Successful completion of this track of study will also earn the student a minor in business from IUP's Eberly College of Business and Information Technology.

Athletic Training Track
IUP's Athletic Training track is accredited by the Commission for Accreditation of Allied Health Education Programs. This track prepares students to evaluate, manage, rehabilitate, and prevent injuries or illnesses to the physically active individual. Upon successful completion of this educational program, students will be eligible to sit for the national athletic training certification examination.

Selection of a predetermined number of students to the Athletic Training Track will be based on demonstrated academic achievement and the evaluation of other criteria as listed below. The minimum standards for eligibility are: (1) sophomore status (minimum of 28 credits), (2) no less than a 2.6 cumulative GPA, (3) no less than a grade of C in HPED 175, 221, 242, 345, and 346, (4) two letters of recommendation, (5) satisfactory completion of 50 hours of directed clinical observation, (6) a written essay, and in some cases, a personal interview. Official admission is also contingent upon obtaining liability insurance, medical clearances, and Acts 34 and 151 clearances, all of which are needed for field experience placement. Once admitted, students must continue to demonstrate above-average academic performance and acceptable clinical performance in order to remain in good standing (specific program retention and completion guidelines will apply and are described in informational/admissions packet available from the department). Students should obtain an informational and admissions packet from the department for full details.

Bachelor of Science in Education Degree–Health and Physical Education

The Health and Physical Education program is accredited by the National Council for Accreditation of Teacher Education, in both Health Education (with accreditation criteria defined by the American Association for Health Education) and Physical Education (with accreditation criteria defined by the National Association for Sport and Physical Education).

Requirements for the degree of Bachelor of Science in Education with a major in Health and Physical Education include the university's Liberal Studies requirements, Professional Education requirements, and the Health and Physical Education core requirements. Upon completion of the degree program and successfully passing the Praxis Exam, the student is qualified for an Instructional I Certificate in Health and Physical Education, issued by the Pennsylvania Department of Education in Harrisburg. This certificate is valid for teaching health and physical education in grades K-12 for three years in the public schools of Pennsylvania. All students seeking Pennsylvania certification must follow the 3-Step Process described in the section "Admission to Teacher Education and Certification" found in the College of Education and Educational Technology section of this catalog.

Health and Physical Education Core

The Health and Physical Education curriculum identifies a required core of studies which emphasizes a body of knowledge relevant to the study of professional health and physical education, as well as the study of physical education and sport. Courses contained in the core are those which are intended to enable students to identify and solve problems by applying relevant knowledge and also to engage in self-directed learning.

Candidates for degree programs in Health and Physical Education must demonstrate acceptable cognitive and psychomotor qualifications as well as desirable character and personality traits. The professional programs seek to foster those qualities of individual character and competence that are inherent in personal and professional maturity. Specific competencies and curriculum requirements are defined within each degree-specific track, and student progress is supervised by the academic advisor.

Driver Education

Candidates for the driver education certification must possess, or be a candidate for, a valid Pennsylvania certificate in any area of certification. A student must currently complete the following four courses: HPED 251, 252, 353, and 354. Students must request the certificate in driver education when they apply for graduation. For students who have already graduated, contact the Office of the Dean, College of Education and Educational Technology, for correct procedures.

Aquatics School Course Offerings

Each summer the department offers the annual Aquatics School. Students attending must possess the necessary aquatic prerequisites. A fee will be charged. All courses may be taken for college credit, if the student is eligible and pays the additional tuition fee. For more information, contact the aquatic director.

Bachelor of Science–Physical Education and Sport (*)

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Health and Wellness: FDNT 143, HPED 143, or
MLSC 101-102 (FDNT or MLSC recommended)
Mathematics: MATH 217
Natural Science: BIOL 103-104, CHEM 101-102, or SCI 105-106
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 3cr, FDNT 145, no courses with HPED prefix

Major:
Core Requirements: 28

HPED 142	Foundations of Health, Physical Education, and Sport	3cr
HPED 175	Prevention and Care of Injuries to the Physically Active	2cr
HPED 200	Fundamentals of Physical Activity	1cr
HPED 210	Motor Development	2cr
HPED 221	Human Structure and Function	3cr

HPED 242	Emergency Health Care	1cr
HPED 263	Aquatics	1cr
HPED 315	Biomechanics	3cr
HPED 341	Evaluation in Health and Physical Education	3cr
HPED 343	Physiology of Exercise	3cr
HPED 441	Psychosocial Implications for Health and Physical Education	3cr
HPED 442	Seminar in Health, Physical Education, and Recreation I	3cr
Professional Requirements:		20
HPED 230	Aerobic Fitness	2cr
HPED 319	Preprofessional Experience II	3cr
HPED 344	Adapted Physical Education	3cr
HPED 375	Physiological Basis of Strength Training	3cr
HPED 410	Exercise Prescription	3cr
HPED 411	Physical Fitness Appraisal	3cr
HPED 412	Physical Activity and Stress Management	3cr
Controlled Electives: (1, 2)		12
BIOL 151, 155, HPED 333, 335, 413, 492, PHYS 151, 161, SAFE 347		12cr
Free Electives:		12
Total Degree Requirements:		120

(*) Admission to this track is by permisison of advisor only.
(1) Nutrition minor may substitute for Controlled Electives; see Department of Food and Nutrition.
(2) Specialty tracks will substitute for Controlled Electives; see following descriptions.

Bachelor of Science–Physical Education and Sport–Exercise Science Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Mathematics: MATH 217
Natural Science: BIOL 103-104, CHEM 101-102, or SCI 105-106
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 3cr, FDNT 145, no courses with HPED prefix

Major: 28
Core Requirements:

HPED 142	Foundations of Health, Physical Education, and Sport	3cr
HPED 175	Prevention and Care of Injuries to the Physically Active	2cr
HPED 200	Fundamentals of Physical Activity	1cr
HPED 210	Motor Development	2cr
HPED 221	Human Structure and Function	3cr
HPED 242	Emergency Health Care	1cr
HPED 263	Aquatics	1cr
HPED 315	Biomechanics	3cr
HPED 341	Evaluation in Health and Physical Education	3cr
HPED 343	Physiology of Exercise	3cr
HPED 441	Psychosocial Implications for Health and Physical Education	3cr
HPED 442	Seminar in Health, Physical Education, and Recreation I	3cr
Sport Science Requirements:		15
HPED 319	Preprofessional Experience II	3cr
HPED 344	Adapted Physical Education	3cr
HPED 375	Physiological Basis of Strength Training	3cr
HPED 410	Exercise Prescription	3cr
HPED 412	Physical Activity and Stress Management	3cr
Exercise Science Track:		19
BIOL 151	Human Physiology	4cr
HPED 230	Aerobic Fitness	2cr
HPED 411	Physical Fitness Appraisal	3cr
HPED 413	Physical Activity and Aging	3cr
PHYS 151	Medical Physics Lecture	3cr
PHYS 161	Medical Physics Lab	1cr
One course from the following:		3cr
HPED 492	Health Fitness Instruction	
SAFE 347	Ergonomics	
Free Electives:		10
Total Degree Requirements:		120

Bachelor of Science–Physical Education and Sport–Sport Administration Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 217
Natural Science: BIOL 103-104, CHEM 101-102, or SCI 105-106
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 6cr, BTED/COSC/IFMG 101, ECON 122, no course with HPED prefix

Major: 28
Core Requirements:

HPED 142	Foundations of Health, Physical Education, and Sport	3cr
HPED 175	Prevention and Care of Injuries to the Physically Active	2cr
HPED 200	Fundamentals of Physical Activity	1cr
HPED 210	Motor Development	2cr
HPED 221	Human Structure and Function	3cr
HPED 242	Emergency Health Care	1cr
HPED 263	Aquatics	1cr
HPED 315	Biomechanics	3cr
HPED 341	Evaluation in Health and Physical Education	3cr
HPED 343	Physiology of Exercise	3cr
HPED 441	Psychosocial Implications for Health and Physical Education	3cr
HPED 442	Seminar in Health, Physical Education, abd Recreation I	3cr
Sport Science Requirements:		17
HPED 319	Preprofessional Experience II	3cr
HPED 333	Psychology of Coaching	2cr
HPED 335	Coaching and Managing of Athletic Programs	3cr
HPED 344	Adapted Physical Education	3cr
HPED 375	Physiological Basis of Strength Training	3cr
HPED 412	Physical Activity and Stress Management *or* HPED 430 The American Woman and Sport	3cr
Business Minor Requirements:		21
ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
MGMT 310	Principles of Management	3cr
MKTG 320	Principles of Marketing	3cr
Total Degree Requirements:		120

Bachelor of Science–Physical Education and Sport–Aquatic Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 217
Natural Science: BIOL 103-104, CHEM 101-102, or SCI 105-106
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, FDNT 145, no course with HPED prefix

Major: 28
Core Requirements:

HPED 142	Foundations of Health, Physical Education, and Sport	3cr
HPED 175	Prevention and Care of Injuries to the Physically Active	2cr
HPED 200	Fundamentals of Physical Activity	1cr
HPED 210	Motor Development	2cr
HPED 221	Human Structure and Function	3cr
HPED 242	Emergency Health Care	1cr
HPED 263	Aquatics	1cr
HPED 315	Biomechanics	3cr
HPED 341	Evaluation in Health and Physical Education	3cr
HPED 343	Physiology of Exercise	3cr
HPED 441	Psychosocial Implications for Health and Physical Education	3cr
HPED 442	Seminar in Health, Physical Education, and Recreation I	3cr

Sport Science Requirements: 18

HPED 319	Preprofessional Experience II	3cr
HPED 344	Adapted Physical Education	3cr
HPED 375	Physiological Basis of Strength Training	3cr
HPED 410	Exercise Prescription	3cr
HPED 411	Physical Fitness Appraisal	3cr
HPED 412	Physical Activity and Stress Management	3cr

Aquatic Track: 12

HPED 165	Lifeguarding	1cr
HPED 261	Water Safety Instructor	1cr
HPED 264	Advanced Aquatics	1cr
HPED 270	Instructor of Handicapped Swimming	1cr
HPED 276	Coaching of Swimming	1cr
HPED 279	Swimming Pool Maintenance and Chemistry	2cr
HPED 280	Aquatic Facilities Management	2cr
HPED 335	Coaching and Managing of Athletic Programs	3cr

Free Electives: 8

Total Degree Requirements: 120

Bachelor of Science–Physical Education and Sport–Athletic Training Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: MATH 217
Natural Science: BIOL 103-104 or CHEM 101-102
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 6cr, BTED/COSC/IFMG 101, FDNT 145, no course with HPED prefix

Major: 28
Core Requirements:

HPED 142	Foundations of Health, Physical Education, and Sport	3cr
HPED 175	Prevention and Care of Injuries to the Physically Active	2cr
HPED 200	Fundamentals of Physical Activity	1cr
HPED 210	Motor Development	2cr
HPED 221	Human Structure and Function	3cr
HPED 242	Emergency Health Care	1cr
HPED 263	Aquatics	1cr
HPED 315	Biomechanics	3cr
HPED 341	Evaluation in Health and Physical Education	3cr
HPED 343	Physiology of Exercise	3cr
HPED 441	Psychosocial Implications for Health and Physical Education	3cr
HPED 442	Seminar in Health, Physical Education, and Recreation I	3cr

Athletic Training Track Requirements: 39

BIOL 151	Human Physiology	4cr
HPED 344	Adapted Physical Education	3cr
HPED 345	Athletic Training	3cr
HPED 346	Athletic Training Lab	1cr
HPED 365	Advanced Athletic Training	4cr
HPED 375	Physiological Basis of Strength Training	3cr
HPED 376	Athletic Training Clinical Practicum I	1cr
HPED 377	Athletic Training Clinical Practicum II	1cr
HPED 380	Seminar in Sports Medicine	2cr
HPED 411	Physical Fitness Appraisal	3cr
HPED 446	Therapeutic Modalities	4cr
HPED 448	Therapeutic Exercise for Athletic Injury Management	4cr
HPED 476	Athletic Training Clinical Practicum III	1cr
HPED 477	Athletic Training Clinical Practicum IV	1cr
PHYS 151	Medical Physics Lecture	3cr
PHYS 161	Medical Physics Lab	1cr

Free Electives: 2

Total Degree Requirements: 120

Note: The office of the Athletic Training Curriculum Coordinator can provide additional information related to specific requirements regarding initial health screening, criminal record checks, and liability insurance needs.

Bachelor of Science in Education–Health and Physical Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Mathematics: MATH 217 and 3 additional cr (must be approved as Liberal Studies Mathematics courses)
Natural Science: BIOL 103-104 or CHEM 101-102
Social Science: PSYC 101
Liberal Studies Electives: 0cr

Major:
Required Courses: 28

HPED 142	Foundations of Health, Physical Education, and Sport	3cr
HPED 175	Prevention and Care of Injuries to the Physically Active	2cr
HPED 200	Fundamentals of Physical Activity	1cr
HPED 210	Motor Development	2cr
HPED 221	Human Structure and Function	3cr
HPED 242	Emergency Health Care (1)	1cr
HPED 263	Aquatics	1cr
HPED 315	Biomechanics	3cr
HPED 341	Evaluation in Health and Physical Education	3cr
HPED 343	Physiology of Exercise	3cr
HPED 441	Psychosocial Implications for Health and Physical Education	3cr
HPED 442	Seminar in Health, Physical Education, and Recreation I	3cr

Professional Requirements:

Health and Physical Education:		23
HPED 214	Teaching Health Fitness and Gymnastics	1cr
HPED 215	Teaching Rhythmic Activities and Dance	1cr
HPED 216	Teaching Elementary Physical Education	2cr
HPED 217	Teaching Middle School Physical Education	2cr
HPED 218	Teaching Secondary Physical Education	2cr
HPED 316	Teaching Elementary Health Education	2cr
HPED 318	Preprofessional Experience I	1cr
HPED 325	School and Community Health	3cr
HPED 370	Adapted Health and Physical Education (2)	3cr
HPED 426	Health Science Instruction	3cr
HPED 450	Curriculum and Programming in Sexuality Education	3cr

College:

Preprofessional Education Requirements:		21
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Requirements:		
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 421	Student Teaching	6cr
EDUC 441	Student Teaching	6cr
EDUC 442	School Law	1cr

(#) **Total Degree Requirements:** 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.
(1) Students are required to keep CPR Instructor Certification current from completion of HPED 242 until graduation.
(2) Teacher education majors must take HPED 370.
(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Certification–Driver Education **12**

Certification in Driver Education may be added to a valid Pennsylvania Instructional Certificate with the completion of the following:

HPED 251	Foundations of Safety and Emergency Health Care (1)	3cr
HPED 252	Introduction to the Driving Task	3cr
HPED 353	Driving Education Program Management	3cr
HPED 354	Application of Driver Education Instructional Modes	3cr

(1) HPED 251 may be substitued for HPED 242 in the core curriculum.

Highway Safety Center

IUP's Highway Safety Center attempts to address the highway safety needs of the commonwealth through a variety of programs and activities. The Highway Safety Center programs encompass activity in five major areas: (1) research, surveys, and studies, (2) education (teaching), (3) training and conferences, (4) field and extension services, and (5) traffic safety communications and information exchange.

Teacher Certification in Driver Education

Through cooperative effort with IUP's Department of Health and Physical Education, the Highway Safety Center coordinates and directs IUP's Teacher Certification Program in Driver Education.

IUP Regional Highway Safety Project

The IUP Regional Highway Safety Project is a federally funded program contracted with the Pennsylvania Department of Transportation's Center for Highway Safety. Originating at IUP in January, 1987, under the title of the Indiana County Seat Belt Program, its purpose was to increase public awareness and the usage of occupant restraints. The program expanded its emphasis and territory in 1989 and now includes the counties of Armstrong, Jefferson, and Clearfield. Programs for corporations, schools, civic groups, law enforcement agencies, etc., include topics such as occupant safety, bicycle safety, pedestrian safety, safe driving characteristics, and DUI. The project also serves as a resource to other community safety groups by providing printed materials, audiovisual aids, crash-car dummy costumes, and the "Seat Belt Convincer." A Car Seat Loaner Program also provides car seats to residents in Indiana County.

Driver Training Programs

From basic driver education programs for beginning drivers to truck driver training to advanced driver training programs in emergency driving techniques, the Highway Safety Center provides a cadre of courses, all designed to meet the needs of the student.

Emergency Services Training

This is a program area designed to meet the training needs of ambulance, fire, and police personnel in the areas of emergency medical services and rescue.

Traffic Accident Investigation

Traffic Accident Investigation programs are available for safety directors, insurance adjusters, and police personnel. Courses range from basic investigation up to and including accident reconstruction.

Department of Hospitality Management

Website: *www.iup.edu/hospitality-mgt*
Stephen B. Shiring, Chairperson; Miller, Sullivan, T. Van Dyke; and professors emeriti Simkins, Woods

The Department of Hospitality Management is one of the premier hospitality management programs in the Commonwealth of Pennsylvania. The second largest hospitality management program in the commonwealth, it is regionally known and nationally respected. It offers students an academic preparation leading to a Bachelor of Science degree.

The mission of the Department of Hospitality Management program: *We will develop competent, entry-level, hospitality management professionals who meet and exceed contemporary industry needs while preparing them for the attainment of continued future career growth and achievement.*

The dynamic, flexible curriculum prepares students for professional careers in the hospitality management industry. Graduates of the program have specialized knowledge and skills for managing the business of hotels, resorts, restaurants, clubs, theme parks, contract food services, school food service, business and industry, cruise lines, special events, convention and trade show events, and wedding consultation and in areas of the travel and tourism industry. The program is accredited by the Accreditation Commission for Programs in Hospitality Administration (ACPHA).

Bachelor of Science–Hospitality Management

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Health and Wellness: FDNT 143
Mathematics: MATH 101 or higher
Natural Science: Option I
Social Science: ECON 101, PSYC 101
Liberal Studies Electives: 3cr, no course with HRIM prefix

Major:

Required Courses:		44
HRIM 101	Introduction to the Hospitality Industry	3cr
HRIM 130	Hospitality Sanitation and Security	3cr
HRIM 150	Principles of Hospitality Management	3cr
HRIM 256	Human Resources in the Hospitality Industry	3cr

HRIM 259	Hospitality Purchasing	3cr
HRIM 265	Hospitality Cost Management	3cr
HRIM 310	Professional Development in the Hospitality Industry	2cr
HRIM 313	Food Production and Service	4cr
HRIM 320	Hospitality Marketing	3cr
HRIM 330	Applications of Food Production and Service	4cr
HRIM 335	Legal Issues in Hospitality	3cr
HRIM 413	Advanced Food Production and Service	4cr
HRIM 470	Hospitality Business Model	3cr
HRIM 493	Internship	3cr (1)

Controlled Electives: One track required 16
16cr of nonrequired HRIM prefix courses

Other Requirements: 9-11

ACCT 201	Accounting Principles I	3cr
FNLG XXX	Foreign Languages	6-8cr

Free Electives: (2) 1-3

Total Degree Requirements: 120

(1) Each student must complete 800 hours of work experience, of which 400 hours must be through supervised experiences in HRIM 493. See department internship coordinator for detailed information.
(2) State System Board of Governors' policy states that at least 40 percent of the coursework in a degree must consist of courses numbered 300 or above.

Department of Human Development and Environmental Studies

Website: *www.iup.edu/hdes*
Chairperson; Bowers, Gibbs, Gordon, Judkins, Kesner, McCombie, Nelson, Swinker, Viggiano; and professors emeritae Cramer, Gallati, Heckroth, Hovis, Kazmer, Streifthau, Wood

The Department of Human Development and Environmental Studies was created by the merging of the Family and Consumer Sciences Education and Consumer Services departments. The mission statement of the department is to empower individuals to support human and environmental needs, enabling them to perform professionally in a changing, diverse technological and global society.

The department is composed of majors that are interdisciplinary and share humanistic values. All majors have an applied research focus and stress critical thinking, professional judgment, decision making, and synthesis of information with direct focus upon career paths.

The Human Development and Environmental Studies Department offers academic programs leading to the Bachelor of Science degree in the following majors: Child Development/Family Relations, Fashion Merchandising, and Interior Design. The Family and Consumer Sciences Education program leads to a Bachelor of Science in Education. These majors prepare men and women for positions in business, the community, and education. The majors also prepare students for graduate study in the areas of interior design, housing, clothing, textiles, consumer economics, human service, child development, family studies, or education.

Faculty advisors work closely with students in planning and integrating the academic program to meet the students' career goals and to supplement classroom experiences. Internships are available and encouraged so students can apply academic knowledge to actual situations. International study is also available to provide an enriching cultural experience.

Fashion Merchandising

The Fashion Merchandising program provides course emphasis in clothing and human behavior, apparel production and analysis, textiles and quality control, apparel distribution, merchandising and promotion, global diversity, historic textiles and apparel, color and aesthetics, and apparel construction. Communications, problem solving, group project organization, professional presentation, and analytical and critical thinking skills are incorporated in course content. The Eberly College of Business and Information Technology complements the Fashion Merchandising major by providing study in one of three options: Business Administration, Marketing, and Small Business Management.

A cooperative program between IUP and the Fashion Institute of Technology in New York City allows students to study one of seven majors: accessories design, advertising and communications, advertising design, fashion design, manufacturing management, textile/surface design, and textile development and marketing.

Graduates of the Fashion Merchandising program are being prepared for entry-level positions such as manufacturer's sales representative, production assistant, ready-to-wear quality control analyst, textile testing laboratory technician, management trainee leading to position of store manager, executive/merchandising trainee leading toward position of buyer/merchandise manager, museum curator assistant, personal color consultant, and personalized shopping specialist for an upscale retail firm.

Bachelor of Science–Fashion Merchandising

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 101 or higher level MATH course
Natural Science: CHEM 101-102 or SCI 105-106
Social Science: ECON 121, PSYC 101, GEOG 104 or ANTH 110 or ANTH 211
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214 or 217, no course with FSMR prefix

Major: 36
Required Courses:

FSMR 110	Introduction to Fashion	3cr
FSMR 112	Fundamentals of Clothing Construction	3cr
FSMR 314	Textiles	3cr
FSMR 350	Apparel Industry I	3cr
FSMR 360	Apparel Industry II	3cr
FSMR 385	Ready-to-Wear Analysis	3cr
FSMR 434	Quality Control in Textiles	3cr
FSMR 456	Historic Costume	3cr
FSMR 480	Seminar in Fashion Merchandising	3cr

Controlled Electives: Three courses from the following: 9cr
FSMR 212, 252, 281, 303, 356, 357, 433, 453, 454, FSMR 455, 481, 482, INDS 205

Additional Requirements: 21-24
Required Courses:

ACCT 201	Accounting Principles I	3cr
JRNL 120	Journalistic Writing *or*	
ENGL 310	Public Speaking	3cr
MKTG 320	Principles of Marketing	3cr

Students will complete courses in one of the following options: 12-15cr
Option 1: Business Administration Minor (15cr)
ACCT 202, FIN 310, MGMT 310, select two from BTST 321, BLAW 235, IFMG 300 (Note: students must meet all minor requirements listed in catalog)
Option 2: Marketing (12cr)
MKTG 321, select three 3cr 400-level MKTG courses
Option 3: Small Business Management (12cr)
MGMT 275, 325 (1), select two from MGMT 300, 310, 350, 403 (2)

Free Electives: 6-9

Total Degree Requirements: 120

(1) Prerequisites to be waived.
(2) Student will need to take ACCT 202 and 300.

Interior Design

The Interior Design program enables graduates to analyze problems, synthesize information, and implement design solutions supportive of the needs of people and the environment. The program emphasizes synthesizing of information and creative problem solving based on interdisciplinary experiences and communicating solutions. The program enables graduates to adapt to a changing world by drawing on history and multidisciplinary experience and applying principles of research.

The core of the Interior Design program includes courses addressing space planning, drafting, design graphics, color theory, building systems, materials and finishes, human factors, computer-aided drafting and design (CADD), design development, textiles, lighting, residential and contract design, and professional practice. Detailed information is available from instructors regarding equipment and supplies to be purchased by students for individual courses in this program. Internships present an excellent opportunity for students to gain practical, on-the-job training and are highly recommended. Experiential learning opportunities in the community augment the program. Students tour a variety of settings including offices, museums, factories, showrooms, retail outlets, and construction sites. Supportive courses are offered in art and business. Graduates are prepared for entry-level positions in commercial and residential design, sales, historic preservation, and showroom management.

Bachelor of Science–Interior Design

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Fine Arts: ARHI 101
Humanities-Philosophy or Religious Studies: PHIL 223 recommended
Mathematics: MATH 101 or higher
Natural Science: SCI 105-106
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 6cr, ARHI 205 or 207, ECON 122, no courses with INDS prefix

Major: 45
Required Courses:

FSMR 314	Textiles	3cr
INDS 105	Introduction to Interior Design	3cr
INDS 118	Drafting for Construction I	3cr
INDS 205	Color Theory and Application	3cr
INDS 218	Drafting for Construction II	3cr
INDS 305	Interior Lighting	3cr
INDS 310	Human Factors in Interior Design	3cr
INDS 313	Materials and Finishes	3cr
INDS 315	Residential Design I	3cr
INDS 319	Residential Design II Kitchen, Bath, Media Room Design	3cr
INDS 370	Development of Design I	3cr
INDS 380	Development of Design II	3cr
INDS 405	Interior Design Professional Practice	3cr
INDS 464	Contract Design I	3cr
INDS 465	Contract Design II	3cr

Other Requirements: 14
Outside Concentration:
Business: BTST 105, MKTG 320 6cr
Art: ART 120, 213, one course from the following: ART 214, 215, 216, 218, 219 8cr

Free Electives: 10

Total Degree Requirements: 120

Family and Consumer Sciences Education

The Family and Consumer Sciences Education major prepares students for the teaching of family and consumer sciences-related subjects in the public schools. Coursework is required in all areas of family and consumer services, including child development and family relations, consumer economics, clothing, foods, and interior design. Professional education courses are also required.

Bachelor of Science in Education–Family and Consumer Sciences Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: MATH 151
Natural Science: CHEM 101-102
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 6cr, CNSV 315, MATH 152, no courses with FCSE prefix

College: 32
Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr

Professional Education Sequence:

EDEX 301	Education of Students with Disabilities in Inclusive Secondary Programs	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 431	Student Teaching in Family and Consumer Sciences	6cr
EDUC 441	Student Teaching	6cr
EDUC 442	School Law	1cr
FCSE 350	Teaching Family Life Education	3cr
FCSE 450	Teaching Vocational and Family Consumer Services Education	3cr

Major: 34
Required Courses:

CDFR 218	Child Development	3cr
CDFR 224	Marriage and Family Relations	3cr
CDFR 321	Preschool Education	3cr
CNSV 101	Personal and Family Management	3cr
FDNT 150	Foods	3cr
FDNT 151	Foods Laboratory	1cr
FDNT 212	Nutrition	3cr
FSMR 112	Fundamentals of Clothing Construction	3cr
FSMR 314	Textiles	3cr
INDS 312	Housing and Culture	3cr

Controlled Electives:
One course from the following: CNSV 413, 416, FSMR 434, INDS 213 3cr
One course from the following: CDFR 424, 463, FDNT 213, 245, FSMR 110, 252, HRIM 313 (1), HPED 450, INDS 205 3cr

Free Electives: 3

(#) **Total Degree Requirements:** 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) Must take the prerequisite HRIM 259.
(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Child Development/Family Relations Major

The Child Development/Family Relations program leads to a Bachelor of Science degree. Primary objectives of the program are to prepare professionals to administer and/or work in programs that entail aspects of child development and family relationships; teach at the adult level; or administer human services agencies at federal, state, or local level. The program also provides preparation for students who want to pursue graduate study in child development or family studies.

Bachelor of Science–Child Development/Family Relations

Liberal Studies: As outlined in Liberal Studies section 51
with the following specifications:
Mathematics: 3cr
Natural Science: CHEM 101-102
Social Science: ANTH 110, PSYC 101, SOC 151
Liberal Studies Electives: 6cr, no courses with CDFR prefix

Major: 39-40
Required Courses:

CDFR 218	Child Development	3cr
CDFR 224	Marriage and Family Relations	3cr
CDFR 317	Infant Development	3cr
CDFR 419	Teaching in Child Development Centers	4cr
CDFR 426	Techniques of Parent Education	3cr
CDFR 463	Family and the Community	3cr
CNSV 315	Consumer Economics and Family Finance	3cr
FDNT 212	Nutrition	3cr

Controlled Electives: (one track) 14-15cr
Track A: Child Development/Family Relations
CDFR 321, 324, 418, 422, 424
Track B: Child Development (by permission only)
CDFR 321, 418, 420, 422
Track C: Family Relations (by permission only)
CDFR 324, 424, 493

Other Requirements: 10
Outside Courses:

BIOL 155	Human Physiology and Anatomy	4cr
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr

Free Electives: 19-20

Total Degree Requirements: 120

Minor–Child Development/Family Relations **18**

Required Courses:

CDFR 218	Child Development	3cr
CDFR 224	Marriage and Family Relations	3cr
CDFR XXX	Any combination of four additional courses with CDFR prefix	12cr

Department of Industrial and Labor Relations

Website: *www.iup.edu/ilr*
Jennie K. Bullard, Chairperson; McCollester, Piper; and professors emeritus Byers, Morand

The Department of Industrial and Labor Relations offers a graduate program within the College of Health and Human Services leading to the degree of Master of Arts in Industrial and Labor Relations. The 42-credit program consists of a required core of 27 credits, including an elective thesis and elective course offerings totaling 15 credits. Internships are available and strongly encouraged.

The program is multidisciplinary, combining analytical and human relations skills with knowledge drawn from social sciences and business disciplines. The degree is designed to prepare professional industrial and labor relations practitioners in public and private management, unions, neutral agencies, government agencies, and arbitration panels. It has as a special emphasis labor relations in the public sector.

While the department does not offer coursework leading to an undergraduate major or degree, it does offer several undergraduate courses which are open to students of any major or college.

Department of Nursing and Allied Health Professions

Website: *www.iup.edu/rn-alliedhealth*
Michele A. Gerwick, Chairperson; Beck, Bellak, Gazza, Hartman, Holmes, Kostelnik, Kuzneski, Labant, Palmer, Polansky, Poorman, Rossiter, Sadler, Settlemyer, Shellenbarger, Twal, Walz, Welsh, Zuraikat; and professors emeritae Blair, Kresak, Murray, Smatlak, Snyder, Thistlethwaite

The College of Health and Human Services offers a curriculum leading to the Bachelor of Science degree in Nursing. Students are admitted to the nursing major as freshmen. Transfer students and those with a previous degree may also be admitted. Upon completion of the program, the graduate is prepared to write the examination for licensure as a Registered Nurse in Pennsylvania and all other states. The program is accredited by the Commission on Collegiate Nursing Education.

The nursing curriculum has as its primary goal the development of professional nurse generalists who are liberally educated, clinically competent, and aware of their social responsibilities as health professionals. The program is designed to provide a broad background in liberal education, coupled with the specialized knowledge and skills required for professional nursing practice. Additionally, the curriculum prepares the nurse to practice within the professional code of nursing ethics, to function effectively as a member of the health care team, and to utilize scientific principles in planning, implementing, and evaluating health care. The nursing curriculum emphasizes concepts in primary, secondary, and tertiary prevention of health problems.

The first two semesters are devoted mainly to Liberal Studies and science courses considered essential to the nursing major. Throughout the last six semesters, clinical experiences in patient care are provided in acute and long-term care facilities as well as community settings.

The Bachelor of Science degree in Nursing is offered for registered nurses who are graduates of accredited diploma or associate degree nursing programs and who have met IUP's admission requirements. The track for registered nurses awards advanced standing based on prior work completed in a nursing program. Registered nurse students will fulfill all degree requirements set by the university. The track is designed to prepare the professional nurse to function as a provider, designer, manager, and coordinator of care in a variety of health care settings.

Detailed information is available in the department office regarding requirements such as health screening, liability insurance, legal clearance, transportation, and professional uniforms.

Bachelor of Science–Nursing

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Mathematics: MATH 217 (1)
Natural Science: CHEM 101-102
Social Science: PSYC 101, SOC 151
Liberal Studies Electives: 3cr, PSYC 310, no courses with NURS prefix

Major:		52-55
Required Courses:		
NURS 211	Nursing Practice I	1cr
NURS 212	Professional Nursing I	2cr
NURS 213	Nursing Practice II	1cr
NURS 214	Health Assessment	2cr
NURS 236	Foundations of Nursing	3cr
NURS 312	Professional Nursing II	2cr
NURS 316	Research Utilization in Nursing	3cr
NURS 336	Adult Health I	4cr
NURS 337	Adult Health Clinical I	5cr
NURS 338	Maternal-Child Health	4cr
NURS 339	Maternal-Child Health Clinical	5cr
NURS 412	Professional Nursing III	2cr
NURS 432	Psychiatric/Mental Health	2cr
NURS 434	Community Health	2cr
NURS 435	Community and Psychiatric/Mental Health Clinical	5cr
NURS 436	Adult Health II	4cr
NURS 437	Adult Health Clinical II	5cr
NURS 450	A Cognitive Approach to Clinical Problem Solving (2)	3cr
Other Requirements:		16
Science Sequence:		
BIOL 105	Cell Biology	3cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
FDNT 212	Nutrition	3cr
Free Electives:		1-4
(#) Total Degree Requirements:		120

(1) The Pennsylvania State Board of Nursing requires two units of high school mathematics (one of which is algebra) for admission to the nursing major.
(2) Students who achieve a higher score than a specified minimum on a department-required standard test(s) are exempt from NURS 450. These students would need 4cr of Free Electives.
(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Bachelor of Science–Nursing/Registered Nurse Track

Liberal Studies: As outlined in Liberal studies section with the following specifications: 48
Health and Wellness: fulfilled by the major
Mathematics: MATH 217
Liberal Studies Electives: 3cr, no course with NURS prefix

Major:		59
Required Courses:		
NURS 316	Research Utilization in Nursing	3cr
NURS 334	Transitions in Professional Nursing	3cr
NURS 411	Advanced Health Assessment	3cr
NURS 412	Professional Nursing III	2cr
NURS 434	Community Health	2cr
NURS 454	Health Promotion of Families Across the Lifespan	3cr
NURS 455	Introduction to Nursing Informatics	3cr
NURS 467	Leadership Practicum	2cr
NURS 469	Community Health Practicum	2cr
NURS 480	Seminar in Nursing	3cr
NURS XXX	Electives	3cr
NURS	Credits via articulation	30cr
Free Electives: (1)		13
Total Degree Requirements:		120

(1) 3cr must have non-nursing prefix.

Allied Health Professions Programs

Jodell L. Kuzneski, Coordinator

Respiratory Care

The Bachelor of Science degree in respiratory care prepares the graduate for a career as a registered respiratory care practitioner. Respiratory care practitioners evaluate, treat, and care for people with breathing problems. They assist physicians in the evaluation and treatment of heart and lung disorders. Respiratory care practitioners are experts in the therapeutic use of medical gases, oxygen administration, pulmonary resuscitation, and artificial airways. They are employed in hospitals, extended care facilities, clinics, rehabilitation centers, physicians' offices, private companies providing home care services, and municipal organizations.

IUP and the Western Pennsylvania Hospital in Pittsburgh jointly offer this program. The program is fully accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in collaboration with the Committee on Accreditation for Respiratory Care (CoARC). The program consists of two academic years of pre-clinical studies (61 credits) on the main campus at IUP and two academic years (59 credits) of clinical study at the Western Pennsylvania Hospital School of Respiratory Care, Pittsburgh. Students must earn a GPA of at least 2.25 in the required natural sciences and mathematics courses and an overall GPA of at least 2.0 to be considered for admission into the clinical years in respiratory care. However, since admission to the clinical years is competitive, IUP cannot guarantee admission. Upon graduation, graduates are eligible for certification (CRT) and registration (RRT) in respiratory care. The granting of the degree is not contingent upon passing the examinations. Graduates are prepared for graduate degrees that may lead to careers in administration, education, and medicine.

The Bachelor of Science degree in respiratory care is offered for Certified Respiratory Therapists (CRT) who are graduates of an accredited certificate or associate degree respiratory care program. CRT students will be awarded advanced standing (33 credits) based on prior academic work completed in a respiratory care program. Students fulfill degree requirements set by the university. This track is designed to prepare the certified respiratory therapist (CRT) to function in an advanced practice role.

Detailed information is available in the department office regarding requirements, such as health screening, liability insurance, legal clearance, and professional uniforms.

Bachelor of Science–Respiratory Care

Liberal Studies: As outlined in Liberal studies section with the following specifications: 48
Mathematics: MATH 105 or higher level
Natural Science: CHEM 101-102
Social Science: PSYC 101, SOC 151, non-Western course
Synthesis: not required
Writing Intensive: not required
Liberal Studies Electives: 6cr, PHYS 151, no courses with RESP prefix

Major:		59
Required Courses:		
RESP 101	The Profession of Respiratory Care	1cr
RESP 326	Respiratory Care Clinical Practice I	3cr
RESP 327	Pharmacology	3cr
RESP 328	Introduction to Respiratory Care	4cr
RESP 329	Respiratory Care Equipment	4cr

RESP 330	Cardiopulmonary Resuscitation	2cr
RESP 333	Respiratory Care Clinical Practice II	3cr
RESP 334	Respiratory Care Instrumentation and Application	4cr
RESP 335	Patient Care Skills	3cr
RESP 336	Cardiopulmonary Evaluation and Clinical Correlation	4cr
RESP 337	Introduction to Pulmonary Function Studies	1cr
RESP 425	Clinical Case Studies	3cr
RESP 426	Respiratory Care Clinical Practice III	4cr
RESP 428	Essentials of Electrocardiology	2cr
RESP 429	Design and Function of a Respiratory Care Program	2cr
RESP 430	Pulmonary Function Studies	3cr
RESP 431	Pediatric Respiratory Care	1cr
RESP 433	Respiratory Care Clinical Practice IV	4cr
RESP 434	Neonatal Respiratory Care	3cr
RESP 436	Respiratory Care Teaching	2cr
RESP 437	Methods in Critical Care	2cr
RESP 438	Cardiopulmonary Rehabilitation	1cr

Other Requirements: 13

Science Courses:

BIOL 105	Cell Biology	3cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr

Total Degree Requirements: (1) 120

(1) RESP 300- and 400-level courses are completed at Western Pennsylvania Hospital School of Respiratory Care in Pittsburgh.

Bachelor of Science–Respiratory Care/Certified Respiratory Therapist Track

Liberal Studies: As outlined in Liberal studies section with the following specifications: 48
Mathematics: 3cr
Synthesis: not required
Writing Intensive: not required
Liberal Studies Electives: 6cr, no courses with RESP prefix

Major: 60

RESP credits via articulation (1)		33cr
Required Courses: (2)		27cr
RESP 425	Clinical Case Studies	3cr
RESP 426	Respiratory Care Clinical Practice III	4cr
RESP 428	Essentials of Electrocardiology	2cr
RESP 429	Design and Function of a Respiratory Care Program	2cr
RESP 430	Pulmonary Function Studies	3cr
RESP 431	Pediatric Respiratory Care	1cr
RESP 433	Respiratory Care Clinical Practice IV	4cr
RESP 434	Neonatal Respiratory Care	3cr
RESP 436	Respiratory Care Teaching	2cr
RESP 437	Methods in Critical Care	2cr
RESP 438	Cardiopulmonary Rehabilitation	1cr

Free Electives: 12

Total Degree Requirements: 120

(1) Students in the CRT track are exempt from the 100- and 300-level courses in the Respiratory Care major and will receive 33cr via articulation.
(2) RESP 400-level courses are completed at Western Pennsylvania Hospital School of Respiratory Care in Pittsburgh.

Clinical Laboratory Science

Clinical Laboratory Science encompasses the study of analytical and diagnostic procedures used in clinical laboratories and in medical research. Clinical Laboratory Scientists (also known as Medical Technologists) perform a variety of laboratory tests upon which the physician depends for accurate diagnosis, prognosis, and proper treatment of the patient. The program of studies, presented jointly by IUP and accredited clinical laboratory science programs in hospitals, prepares the student to enter the profession. Upon completion of the four-year program, the Bachelor of Science degree in Clinical Laboratory Science is granted. The program also prepares the student for graduate and professional schools.

IUP maintains affiliations with accredited Schools of Clinical Laboratory Science/Medical Technology. To be competitive for clinical placement the student must have a minimum overall GPA and Math/Science GPA of 2.5. Since admission to any hospital program is on a competitive basis, IUP cannot guarantee admission.

The following programs maintain agreements of affiliation with IUP: Abington Memorial Hospital, Abington; Altoona Hospital, Altoona; Conemaugh Memorial Medical Center, Johnstown; Graduate Hospital, Philadelphia; Lancaster General College of Nursing and Health Sciences, Lancaster; Reading Hospital and Medical Center, Reading; St. Vincent Health Center, Erie; and York Hospital, York.

Completion of academic studies at IUP and of one year of clinical experience qualifies the student to take a national certification examination. Successful results on this examination lead to certification as a professionally qualified medical technologist/clinical laboratory scientist.

Bachelor of Science–Clinical Laboratory Science

Liberal Studies: As outlined in Liberal studies section with the following specifications: 48
Mathematics: MATH 217
Natural Science: CHEM 111-112
Synthesis: not required
Writing Intensive: one required
Liberal Studies Electives: 6cr, PHYS 111, no courses with MEDT prefix

Major: 32

Required Courses: (1)

MEDT 494	Clinical Microbiology	8cr
MEDT 495	Clinical Chemistry	10cr
MEDT 496	Clinical Hematology/Coagulation	6cr
MEDT 497	Clinical Immunohematology	4cr
MEDT 498	Clinical Immunology/Serology	2cr
MEDT 499	Clinical Seminar	2cr

Other Requirements: 38

BIOL 111	Principles of Biology I	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 250	Principles of Microbiology	3cr
BIOL 364	Immunology	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 323	Analytical Methods	4cr
CHEM 351	Biochemistry	4cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr

Free Electives: 2

(#) **Total Degree Requirements:** 120

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

(1) These courses are offered by affiliating hospital-based Schools of Clinical Laboratory Science (also known as Medical Technology). Areas of study are consistent with requirements of the National Accrediting Agency for Clinical Laboratory Sciences and are completed during the final twelve months of the degree program at an affiliating school.

Nuclear Medicine Technology

Nuclear Medicine Technology is a medical specialty in which allied health care professionals, under the direction of a nuclear medicine physician, use radioactive materials in the diagnosis and treatment of disease. They are responsible for patient education and preparation regarding the nuclear medicine procedures, administration of radiopharmaceuticals, performing complex computer imaging studies, and radiation safety procedures for both patients and staff. The nuclear medicine technologist's skills complement those of the nuclear medicine physician.

The College of Health and Human Services offers a curriculum leading to the Bachelor of Science degree in Nuclear Medicine Technology. Students are admitted to the nuclear medicine technology major as freshmen. Transfer students and those with a previous degree may also be admitted. The program of study leading to a Bachelor of Science degree in Nuclear Medicine Technology consists of three years of pre-clinical study on the IUP main campus and one year of clinical study at the Nuclear Medicine Institute, University of Findlay, Findlay, Ohio. The Nuclear Medicine Institute program is fully accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. Graduates of the program are eligible to take the Nuclear Medicine Technology national certificate examination offered by the Nuclear Medicine Technology Certification Board (NMTCB) and the American Registry of Radiologic Technologists (ARRT). The granting of the degree is not contingent upon passing the examinations.

Students must must meet specific academic requirements to be considered for admission to the Nuclear Medicine Institute. Admission is competitive; IUP cannot guarantee admission into the institute's program. Information regarding academic requirements and other special requirements for the clinical year is available in the department's office.

Bachelor of Science–Nuclear Medicine Technology

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		51
Mathematics: MATH 217		
Natural Science: CHEM 101-102		
Social Science: PSYC 101, SOC 151		
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101, MATH 105, PHYS 111, no courses with NMDT prefix		
Major:		32
Required Courses: (1)		
NMDT 427	Nuclear Scintigraphy	3cr
NMDT 428	Radiation Physics	3cr
NMDT 429	Nuclear Medicine Instrumentation	3cr
NMDT 430	Radiation Biology and Radiation Protection	2cr
NMDT 431	In Vivo/In Vitro Non-Imaging	1cr
NMDT 432	Radiopharmaceuticals	3cr
NMDT 433	Introduction to Tomographic Imaging	1cr
NMDT 434	Clinical Nuclear Medicine	16cr
Other Requirements: (2)		18
BIOL 105	Cell Biology	3cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
ENGL 310	Public Speaking	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
Free Electives: (3)		19
Total Degree Requirements:		120

(1) These courses are offered at the University of Findlay/Nuclear Medicine Institute, Findlay, Ohio. These areas of study are consistent with requirements of the Joint Review Committee on Educational Programs on Nuclear Medicine Technology (JRCNMT). All eight of these areas of study are completed during the final twelve months of the degree program.

(2) Students are also required to complete a medical terminology course/program. Options to fulfill this requirement must be approved by the Coordinator of Allied Health Professions.

(3) Two writing-intensive courses are required. Both courses may be from either Liberal Studies or Free Electives.

Gerontology Certificate Program
Jodell L. Kuzneski, Coordinator

The Gerontology Certificate program provides an interdisciplinary approach to the systematic study of the aging and is designed to be combined with any undergraduate major at IUP. The 21-credit program entails three core courses, three elective courses, and an internship that will provide experiential learning in an agency or program serving older adults. Many courses fulfill the requirements for the Liberal Studies program. Applications are available at 244 Johnson Hall. For information, call 724-357-7647.

Gerontology Certificate Program			**21**
Core Courses:			9
HPED 350	Health Aspects of Aging	3cr	
PSYC 312	Adult Development and Aging	3cr	
SOC 357	Sociology of Aging	3cr	
Controlled Electives:			9
ANTH 340, 444, CDFR 324, CNSV 315, GERN 281, 481, GERN 482, HPED 413, MGMT 300, 311, PHIL 400, 405, PSYC 376, 378, RHAB 312, SAFE 380, SOC 336, 342, 345		9cr	
Other Requirements:			3
Internship (GERN 493 or internship in student's major)		3cr	

Department of Safety Sciences

Website: *www.iup.edu/safetysciences*
Lon H. Ferguson, Chairperson; Engler, Janicak, Joseph, Rhodes, Rivers, Soule; and professors emeriti Christensen, McClay, Pacaln

The department offers the Bachelor of Science degree in Safety Sciences with specialization in occupational safety and health. The program in Safety Sciences prepares the student for professional, administrative, managerial, and supervisory positions in industry, manufacturing, insurance, transportation, utility, government, construction, trade service industries, and others. There remains a need in Pennsylvania and the nation for university-educated occupational safety and health professionals. The curriculum includes a major of 41 credits in Safety Sciences and an additional 15 credits in related professional courses. A variety of elective courses are available in both the major and professional fields that enable students to strengthen their primary interest areas.

Bachelor of Science–Safety Sciences

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		52
Mathematics: MATH 217		
Natural Science: CHEM 101 and 102		
Social Science: PSYC 101, SOC 151, non-western culture required		
Liberal Studies Electives: 7cr, ECON 122, MATH 121, no courses with SAFE prefix		

Major:		41
Required Courses:		
SAFE 101	Introduction to Occupational Safety and Health	3cr
SAFE 111	Principles of Industrial Safety I	3cr
SAFE 210	Environmental Safety and Health Regulations	3cr
SAFE 211	Principles of Industrial Safety II	4cr
SAFE 301	Health Hazard Identification	3cr
SAFE 303	Control of Health Hazards	3cr
SAFE 311	Fire Protection	3cr
SAFE 345	Systems Safety Analysis	3cr
SAFE 347	Ergonomics	3cr
SAFE 402	Health Hazard Evaluation	3cr
SAFE 412	Hazard Prevention Management	4cr
SAFE 488/493	Internship	6cr
Other Requirements:		27
Additional Science and Mathematics:		
BIOL 155	Human Physiology and Anatomy	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 112	Physics II Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 122	Physics II Lab	1cr
Professional Courses:		
BTST 321	Business and Interpersonal Communications	3cr
MGMT 311	Human Behavior in Organizations	3cr
Three courses that form a concentration in a professional area		9cr
Total Degree Requirements:		120

The minor in Safety Sciences consists of 18 credits in Safety Sciences courses as identified below. The minor in Safety Sciences has improved job opportunities for students in Environmental Health, Environmental Geoscience, Criminology, Human Resource Management, International Business, and Management.

Minor–Safety Sciences		**18**
Required Courses:		
SAFE 101	Introduction to Occupational Safety and Health	3cr
SAFE 111	Principles of Industrial Safety I	3cr
SAFE 301	Health Hazard Identification	3cr
Controlled Electives:		
Three SAFE courses approved by department chair		9cr

The College of Humanities and Social Sciences

Yaw A. Asamoah, Dean
Alphonse N. Novels, Associate Dean
Veronica T. Watson, Dean's Associate
Website: *www.iup.edu/humanities*

The College of Humanities and Social Sciences provides a liberal education as an essential foundation for the student's preparation for a satisfying career. The college maintains an emphasis on the fundamental understanding of our cultural heritage, combined with development of a thorough background of knowledge in the student's specific area of interest. It seeks to promote in students critical and objective thinking, analytical skills, and a keen awareness of their responsibilities to society.

College Majors
Anthropology
Economics
English
French for International Trade
French
Geography
German
Government and Public Service
History
International Studies
Journalism
Philosophy
Political Science
Regional Planning
Religious Studies
Social Science Education
Social Studies Education
Sociology
Spanish
Spanish for International Trade

College Minors
Anthropology
Applied Social Research
Asian Studies
Economics
English
French
German
Geography
History
International Studies
Journalism
Latin American Studies
Pan-African Studies
Philosophy
Political Science
Regional Planning
Religious Studies
Sociology
Spanish

Degrees

The departments of Anthropology, Economics, English, French and German, Geography and Regional Planning, History, Journalism, Philosophy, Political Science, Religious Studies, Spanish, and Sociology offer work leading to a Bachelor of Arts degree. The Bachelor of Science degree is offered in Regional Planning. The Bachelor of Science in Education is offered in English, French, German, Social Science, Social Studies, and Spanish.

Master of Arts or Master of Science degrees are offered by English, Geography and Regional Planning, History, Political Science, and Sociology. The English and Sociology departments offer the Doctor of Philosophy degree. Information about these programs may be obtained from the School of Graduate Studies and Research.

Junior-Year Review

All students who are candidates for a degree offered by the College of Humanities and Social Sciences must meet with their faculty advisors and complete a junior-year review of their academic record upon earning 72 credits. The purpose of the review is to verify that, by the planned graduate date, the student's graduation requirements will have been met. Completed junior-year review reports must be approved by the department chairperson and the associate dean. Juniors who are eligible for the review will not be permitted to register without completing this checkout.

It remains the student's responsibility to complete a form to apply for graduation and submit it to the department chairperson early in the term prior to graduation. Failure to meet the graduation application deadline may result in a delay in the student's graduation.

Degree Requirements

In addition to the university's Liberal Studies requirements, students seeking a baccalaureate degree in this college must complete the requirements for a major as established by the department through which they wish to specialize. Statements of these requirements, and the requirements for those minoring in a specific field, appear in the department sections that follow. A double major or minor may encompass a discipline outside as well as within the college but should be selected only with advisor approval. As a general principle, there is considerable latitude in course choice for Humanities and Social Sciences majors. The intermediate-level foreign language requirement (description follows) applies without exception to all Humanities and Social Sciences four-year degree programs.

College Foreign Language Requirements

Students in the colleges of Natural Sciences and Mathematics and Humanities and Social Sciences must demonstrate an intermediate level of foreign language proficiency as a college requirement for graduation. They may choose any of the languages offered, including self-instruction in the Critical Languages, described below. Intermediate-level foreign language courses in French, German, Italian, and Spanish will also count as Liberal Studies electives.

For students with previous foreign language instruction or experience, individual placement into foreign language courses may be done during placement testing and registration prior to the first semester at IUP. Students whose placement test demonstrates competence equivalent to the intermediate level are considered to have fulfilled the foreign language requirement. Students with no previous foreign language background will take entry-level courses, which may be counted as free electives in the total required for graduation.

Any foreign student, registered as such at IUP, whose acquired native language is other than English and who demonstrates an acceptable proficiency in English, is exempt from the foreign language requirement if the department of the student's major does not require a specific foreign language.

Critical Languages Program

The Critical Languages program is a self-instructional/tutorial approach to less commonly taught foreign languages. Students meet with a tutor three hours per week in addition to practicing with audiocassettes. Most tutors are native speakers of the language. Professional teachers of the specific language may be brought in from other universities to evaluate student performance. The final grade is based on final examination as well as on performance during the tutorial sessions. Interested students must contact the coordinator before registration. Each course carries 3 credits.

The following languages may be available for study: Arabic, Chinese, Dutch, Finnish, Modern Greek, Hebrew, Hindi, Hungarian, Japanese, Korean, Portuguese, Russian, Swahili, and Swedish.

Foreign Study Programs

College majors may be interested in the various Foreign Study Programs and Tours offered. Credits obtained through such arrangements normally are applicable toward a Humanities and Social Sciences degree. Also of interest are the college's credit-awarding programs at Valladolid (Spain), Duisburg (Germany), and Nancy (France), as well as the Summer Study in Mexico Program. For further information, contact the chair of the appropriate language department.

IUP at Valladolid: Through the Spanish Department, the university has offered a spring semester of study at the University of Valladolid, Spain, for more than thirty-five years. The participants live in private homes. For details and brochures, contact the Spanish Department.

IUP at Duisburg: IUP has a study abroad program at the University of Duisburg, West Germany. The program is open to German majors and other students having specific interest in a foreign study experience. Students must register for FNLG 100 and pay a foreign exchange fee for each semester in the program. For further information, contact the French and German Department.

IUP at Nancy: IUP has established a study program with the University of Nancy, France. Participants in the Nancy program must pay a foreign exchange fee for each semester in the program. For details, contact the French and German Department.

IUP at Mexico Summer Program: The Spanish Department sponsors a program of study in Spanish language in Mexico. The program is located at Cuernavaca, and the cost of the program includes transportation, complete room and board, insurance, and tuition. The student may earn up to 6 credits of undergraduate or graduate credit. Internship opportunities are available for students with fluency in Spanish. For details and brochures, contact the Spanish Department.

IUP at Costa Rica Summer Program: The Department of Spanish has also established a four-week study program at the National University of Costa Rica, located in Heredia. Participants live with Costa Rican families and take classes at the university. This program is intended for students who are going abroad for the first time, and preference is given to beginning students. Participants earn four transfer credits in Spanish from the UNA. For details and brochures, contact the Spanish Department.

Pre-Law Track

The College of Humanities and Social Sciences offers a pre-law track that prepares the student for application to law school. This track is in the following Social Sciences, Humanities, and Business departments: Business, Criminology, Economics, English, History, Philosophy, and Political Science. All tracks are designed as part of a baccalaureate degree and as preparation for law school.

Coursework in the pre-law track centers upon a carefully developed interdisciplinary minor. For detailed guidance in pre-law, students should consult the pre-law advisor in their major department.

Departmental Honors Tracks

Departmental honors tracks in the College of Humanities and Social Sciences enable eligible students to participate in advanced study in their disciplines. These tracks are particularly encouraged for students who intend to seek admission to graduate or professional schools.

Honors coursework is recorded on university transcripts and students completing the departmental honors tracks will be recognized at departmental commencement ceremonies. For detailed guidance in departmental honors tracks, students should consult the description in their major department and meet with their advisors.

Internship Programs

Humanities and Social Sciences departments have internship programs which allow students to engage in supervised off-campus work experience for credit. IUP students have worked in Harrisburg as aides to state legislators, with the Governor's Justice Commission and the Local Government Commission, and with the Investigations Division, Pennsylvania Department of Justice. Others have worked at correctional institutions in Pittsburgh, Greensburg, and Warrendale, as peer group counselors on the local campus, as assistants to the Pennsylvania state Republican chairperson, as on-site guides at the United Nations, as workers on an Israeli kibbutz, and as student aides for the Department of Education in Puerto Rico. Other students have worked in the Pittsburgh federal probation office. Many students have worked with major political parties and candidates at the local and state levels. At the county level, they have been attached to the offices of the county planner, the Common Pleas Court, the coroner, the treasurer, commissioners, and the borough manager. Students have also worked in the Washington offices of Pennsylvania congressmen and in many federal and international organizations in Washington as well. Opportunities for internships in other countries also exist. For more information about specific internship programs, students should consult with the chair of the department in which the student is majoring.

Asian Studies Minor

The Asian Studies Minor is designed to increase awareness of the world's largest, most populous, and most diverse continent. Its purpose is to combine an area focus with liberal studies requirements of the IUP curriculum. The minor provides an opportunity to increase awareness and understanding of Asian cultures, environments, and peoples. It adds depth to the liberal studies portion of the students' program, enhances job skills, and prepares students for postgraduate programs with area or regional themes.

Students complete a minimum of 18 credits outside of their major. At least four courses (12 credits), including three different departmental prefixes, must come from Category A: Exclusively Asia-Focused. One Asian "Critical Language" course may apply to the Category A requirement. Other courses may come from either Category A or Category B: Substantially Asia-Focused. Special topics and independent study courses may be applied to either category with the approval of the Asian Studies Committee.

Category A: Exclusively Asia-Focused Courses are devoted to a combination or subset of the following topics: the continent of Asia (as defined by International Geographical Union convention), its physical environments, and the human systems and cultures indigenous to the region.

Category B: Substantially Asia-Focused Courses have significant material specifically about the continent of Asia, its physical environments, and the human systems and cultures indigenous to the region. The remainder of the course material establishes relevant comparisons and contexts for Asian themes.

Category A: Exclusively Asia-Focused:		12-20
ANTH/SOC 273	Cultural Area Studies: Southeast Asia	3cr
GEOG 256	Geography of East Asia	3cr
GEOG 257	Geography of South and Southeast Asia	3cr
HIST 206	History of East Asia	3cr
HIST 330	History of the Islamic Civilization	3cr
HIST 331	Modern Middle East	3cr
PLSC 383	Political Systems: Asia	3cr
PLSC 384	Political Systems: Middle East	3cr
RLST 311	Eastern Philosophy	3cr
RLST 370	Religions of China and Japan	3cr
RLST 375	Religions of India	3cr
SOC 272	Cultural Area Studies: China	3cr
Asian Critical Languages:		3cr each
CRLG 101/151/201/251 Arabic I, II, III, IV		
CRLG 102/152/202/252 Chinese I, II, III, IV		
CRLG 105/155/205/255 Hindi I, III, IV		
CRLG 108/158/208/258 Japanese I, II, III, IV		
CRLG 109/159/209/259 Korean I, II, III, IV		

Category B: Substantially Asia-Focused:		0-6
ECON 339	Economic Development I	3cr
ECON 345-W	International Trade (Asia case study)	3cr
ECON 346-W	International Finance (Asia case study)	3cr
ECON 350	Comparative Economic Systems	3cr
GEOG 104	Geography of the Non-Western World	3cr
GEOG 254	Geography of Russia and the Soviet Sphere	3cr
LBST 499	Asian American Culture	3cr
LBST 499	Cross-Cultural Communication with Asia	3cr
PLSC 101	World Politics	3cr

PLSC 285	Comparative Government II: Non-Western Political Systems	3cr
RLST 110	World Religions	3cr
RLST 380	Islam	3cr

For further information on the Asian Studies Minor, contact the College of Humanities and Social Sciences, 201 McElhaney Hall, 724-357-2280.

Latin American Studies Minor

The Latin American Studies Minor is a multidisciplinary program that brings together courses focusing on the history, literature, culture, geography, political economy, and social organization of Latin America. This minor is designed to increase awareness and understanding of Latin American peoples, environments, and cultures. Its purpose is to combine an area focus with the liberal studies requirements of the IUP curriculum. The minor helps IUP students to enrich their understanding of world cultures and of the complexity of cultural diversity in a changing world. In addition, one goal is to expand student awareness of the contributions persons of this region have made to the United States and internationally. A Latin American Studies Minor is thus valuable in an increasingly diverse society, especially since people of Hispanic descent represent the largest minority population in the United States.

Students must complete 18 credits to earn a minor in Latin American Studies. In keeping with the multidisciplinary approach of the program, students are encouraged to take courses from departments throughout the university. Students can count no more than 9 credits from the same department (or 6 credits within their major) toward the minor. At least three courses (9 credits) must come from Category A: Exclusively Latin America-Focused. Other courses may come from either Category A or Category B: Substantially Latin America-Focused. Special topics and independent study courses may be applied to either category with the approval of the Latin American Studies Committee. Students enrolled in the colleges of Natural Sciences and Mathematics and Humanities and Social Sciences who are considering a minor in Latin American Studies are strongly encouraged to take SPAN 201 to complete their Liberal Studies language requirement. Students should consult with the program coordinator to determine if there are any prerequisites for the courses listed below. Through counseling, the program coordinator will work with individual departments to determine if students might be qualified for prerequisite exemptions. Students who complete courses through established study-abroad centers in Latin America can apply for credit towards the Latin American Studies Minor. Each request for transfer credit will be considered on a case-by-case basis by the program coordinator.

- **Category A:** Exclusively Latin America-Focused courses are devoted to a combination or subset of the following topics: the countries which compose Latin America, its physical environments, and the human systems and cultures of the region.
- **Category B:** Substantially Latin America-Focused courses have significant material specifically about the countries which compose Latin America, its physical environments, and the human systems and cultures of the regions. The remainder of the course materials establishes relevant comparisons and contexts for Latin American themes.

Minor–Latin American Studies **18**

Required Course: 3

LAS 480	Latin American Studies Seminar	3cr

Category A: Exclusively Latin America-Focused 9-15

ANTH/SOC 274	Cultural Area Studies: Latin America	3cr
ANTH/LAS 370	Latinos and Diasporas	3cr
ANTH 460	Ethnographic Field School (1)	3cr
ENGL 344	Ethnic American Literature (1)	3cr
GEOG 252	Geography of Latin America	3cr
GEOG 484	Field Studies in Geography and Social Studies (1)	3cr
HIST 208	Survey of Latin American History	3cr
HIST 350	History of Latin America: Colonial Period	3cr
HIST 351	History of Latin America: National Period	3cr
LAS 281	Special Topics in Latin American Studies	3cr
LAS 481	Special Topics in Latin American Studies	3cr
LAS 482	Independent Study	3cr
LAS 493	Internship (2)	3cr
PLSC 387	Political Systems: Latin America	3cr
PLSC 389	Developing Nations	3cr
SPAN 244	Modern Mexico	3cr
SPAN 260	Introduction to Hispanic Literature	3cr
SPAN 340	Hispanic Civilization Through the Nineteenth Century	3cr
SPAN 344	Twentieth Century Spanish-American Civilization and Culture	3cr
SPAN 364	Survey of Spanish-American Literature	3cr
SPAN 420	Modern Hispanic Theater	3cr
SPAN 421	Modern Hispanic Short Story	3cr
SPAN 430	Twentieth-Century Spanish-American Prose	3cr
SPAN 431	Spanish-American Poetry	3cr

Category B: Substantially Latin America-Focused 0-6

ECON 339	Economic Development I	3cr
ECON 345	International Trade	3cr
ECON 346	International Finance	3cr
ECON 350	Comparative Economic Systems	3cr
ENGL/ENLG 396	The Literature of Emerging Nations	3cr
MGMT/MKTG 350	International Business	3cr
MGMT 351	International Management	3cr
MGMT 452	Comparative Management	3cr
MGMT 454	International Competitiveness	3cr
MKTG 430	International Marketing	3cr
PLSC 285	Comparative Government II: Non-Western Political Systems	3cr

(1) The topic of ANTH 460, ENGL 344, and GEOG 484 varies (check with instructor). When concerned with Latin America or the Hispanic experience in the United States, these courses will count towards the Latin American Studies Minor.

(2) With the program coordinator's approval, 3cr of an internship (LAS 493) may be counted towards the Latin American Studies Minor.

For further information on this minor, contact the College of Humanities and Social Sciences, 201 McElhaney Hall, 724-357-2280.

Pan-African Studies Minor

The Pan-African Studies minor is a multidisciplinary program that brings together courses focusing on the vitality and accomplishments of pre-colonial African societies, the cultural and racial heritages of people of African descent in relationship to western societies, and aspects of modern-day African cultures. The cluster of courses included in this program represents a broad, diverse look at the diaspora of people of African origin.

The minor helps IUP students to enrich their cross-cultural studies; to heighten their awareness of, and sensitivity to, cultural diversity; and to expand their knowledge of world contributions of persons of African heritage. A Pan-African studies minor is thus valuable in an increasingly diverse society and attractive to employers and graduate schools alike.

Minor–Pan-African Studies **18**

Required Courses: 6

HIST 365	History of Black America Since Emancipation	3cr
PNAF 131	Introduction to Pan-African Studies	3cr

Controlled Electives: Four courses from the following: 12 (1)

ANTH/SOC 271	Cultural Area Studies: Africa	3cr
COMM 380	The History of African Americans in Film	3cr
ECON 339	Economic Development I	3cr

ENGL 348	African-American Literature	3cr
GEOG 255	Geography of Africa	3cr
HIST 355	African History I: Antiquity to 1600	3cr
HIST 356	African History II: 1600 to Present	3cr
HIST 366	African-American Women	3cr
PLSC 382	Political Systems: Africa	3cr
PNAF 281	Special Topics in Pan-African Studies	3cr
PNAF 481	Special Topics in Pan-African Studies	3cr
PNAF 482	Independent Study	3cr
RLST 360	African Religions	3cr

(1) With the program coordinator's approval, 3cr of an internship may be counted towards the Pan-African studies minor.

For further information on this minor, contact the College of Humanities and Social Sciences, 201 McElhaney Hall, 724-357-2280.

Department of Anthropology

Website: *www.iup.edu/anthropology*

Phillip D. Neusius, Chairperson; Chaiken, Chiarulli, Conelly, Garcia, Kruckman, S. Neusius; and professors emeriti Lanham, Olin-Fahle

The Anthropology Department promotes awareness of anthropological knowledge and methods and seeks to further the discipline and its applications to the problems of the contemporary world. Through teaching, research, and involvement in campus and community events and programs, the anthropology faculty members contribute to the liberal education of IUP students. The Anthropology major itself equips students with knowledge and skills needed for full participation in the global environment of the twenty-first century.

Anthropology emphasizes the study of human biological and cultural diversity within its four subfields: sociocultural anthropology, biological anthropology, linguistics, and archaeology. All students receive a solid foundation in the discipline of anthropology and tailor their major to specific interests by following one of the three tracks.

The General Anthropology Track ensures that students receive a strong foundation in all four subdisciplines of Anthropology while simultaneously permitting them a great deal of freedom to explore a variety of issues in Anthropology and to tailor the curriculum to the students' own interests. The General Track is suitable for any Anthropology major or students seeking to double major in Anthropology.

The Archaeology track provides an emphasis on the study of culture through the material remains of human behavior. This track provides training for careers in the growing fields of cultural resource management and historic preservation, with opportunities for employment in both government and the private sector. A wide variety of internship opportunities provide hands-on training in these areas.

The Applied Anthropology track provides students with a background in anthropological method and theory, a cross-cultural perspective, and an avenue to translate this knowledge into action through internships and research. Examples of career opportunities include program design, implementation, and evaluation; policy analysis and administrative and managerial development; assessment of current and future human needs; and creation of strategies for social intervention and advocacy. In consultation with an advisor, each student will develop his or her own curriculum in order to build expertise in a specific topical area.

The department also offers preparation for teaching social studies with a concentration in anthropology. This program leads to a Bachelor of Science in Education degree. With its emphasis on cross-cultural comparisons, the realities of contemporary global cultures, and cultural resource management, anthropology provides a solid foundation for teaching social science at the secondary level. The department also offers a minor in anthropology.

Anthropology Honors Program

The honors program is open by departmental permission to declared Anthropology majors with a minimum 3.25 cumulative GPA and a 3.25 GPA in Anthropology courses. Students complete ANTH 483; CHSS 489 (a multidisciplinary colloquium emphasizing problem-solving, discussion, reading, and writing on a topic or theme); and HNRC 499, which fulfills the Liberal Studies Synthesis requirement. To determine how honors track courses will be integrated into existing requirements for the Anthropology major, students should consult their advisors.

To apply, students must petition the department honors committee for admission no earlier than the completion of the sophomore year. An application must be filed with the chairperson of the Department of Anthropology and should include an application form, a letter of intent, a description of the work plan, a full transcript, and two letters of recommendation from faculty members.

Bachelor of Arts–General Anthropology Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 217
Social Science: GEOG 104 (recommended)
Liberal Studies Electives: 9cr, BTED/COSC/IFMG101 (recommended), no courses with ANTH prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 36
Required Courses:

ANTH 211	Cultural Anthropology	3cr
ANTH 222	Biological Anthropology	3cr
ANTH 233	Language and Culture	3cr
ANTH 244	Basic Archaeology	3cr
ANTH 456	Ethnographic Research Methods ***or***	3cr
ANTH 317	Archaeology Research Design and Analysis	
ANTH 480	Anthropology Seminar	3cr

Controlled Electives:

Two courses in Topical Area Ethnography such as ANTH 271, 273, 274, 314	6cr
Three additional ANTH electives (300 or 400 level)	9cr
One additional ANTH elective (any level)	3cr

Free Electives: 25-31 (2)

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) State System Board of Governors' policy states that at least 40 percent of the coursework in a degree must consist of courses numbered 300 and above.

Bachelor of Arts–Anthropology/Archaeology Track

Liberal Studies: As outlined in Liberal Studies section 54
with the following specifications:
Mathematics: MATH 217
Natural Science: GEOS 121-122 and 131-132 (recommended)
Social Science: SOC 151 (recommended)
Liberal Studies Electives: 9cr, BTED/COSC/IFMG101 (recommended), no courses with ANTH prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major:		36
Required Courses:		
ANTH 211	Cultural Anthropology	3cr
ANTH 222	Biological Anthropology	3cr
ANTH 233	Language and Culture	3cr
ANTH 244	Basic Archaeology	3cr
Controlled Electives:		
Three methods courses:		
ANTH 317	Archaeology Research Design and Analysis	3cr
ANTH 320	Archaeological Field School	6cr (2)
ANTH 415	Cultural Resource Management	3cr
One theory course: ANTH 480 or SOC 447 (3)		3cr
Two area courses, one in archaeology and one in ethnography, such as: ANTH 213 or 315 and ANTH 314 or ANTH 271/272/273/274		6cr
One topical course such as: ANTH 401 or 420		3cr
Free Electives: (4)		24-30
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) For approval by advisor, an equivalent field school of another university must have a lab component.
(3) SOC 447 may be taken only with approval of the advisor.
(4) A minor in Geoscience, Geography, History, or other approved field is recommended. An internship (ANTH 493) also is recommended. Your advisor should be consulted.

Bachelor of Arts–Anthropology/Applied Anthropology Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 217 **Social Science:** GEOG 104 (recommended) **Liberal Studies Electives:** 9cr, BTED/COSC/IFMG 101 (recommended), no courses with ANTH prefix		53
College: Foreign Language Intermediate Level (1)		0-6
Major:		36
Required Courses:		
ANTH 211	Cultural Anthropology	3cr
ANTH 222	Biological Anthropology	3cr
ANTH 233	Language and Culture	3cr
ANTH 244	Basic Archaeology	3cr
Two methods courses: ANTH 360, 456		6cr
One theory course: ANTH 480		3cr
Controlled Electives:		
One area course: ANTH 314 or ANTH 271/273/274		3cr
Two additional ANTH electives (300 or 400 level)		6cr
ANTH 493	Internship in Anthropology (2)	6cr
Free Electives:		25-31 (3)
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) Internship is highly recommended but may be replaced by 6cr of pragmatic skill courses upon approval of advisor.
(3) State System Board of Governors' policy states that at least 40 percent of the coursework in a degree must consist of courses numbered 300 and above.

Bachelor of Science in Education–Social Science Education/ Anthropology Concentration (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Humanities/History:** fulfilled by required courses in major **Mathematics:** 3cr **Natural Science:** BIOL 103-104 or two of the following: GEOS 101-102, GEOS 103-104, GEOS 105-106 **Social Science:** ANTH 211, ECON 121, PSYC 101 **Liberal Studies Electives:** 6cr, PSYC 310 or 330, SOC 362 or 363, no courses with ANTH prefix		48
College:		32
3 additional cr of MATH 100 level or above (in addition to Liberal Studies Math) (1)		3cr
Preprofessional Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Programs	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 455	Teaching of Social Studies in Secondary Schools	3cr
Major:		21
Required Courses:		
ANTH 211	Cultural Anthropology	*cr (2)
ANTH 213	World Archaeology	3cr
ANTH 222	Biological Anthropology	3cr
One additional subdisciplinary course:		
ANTH 233	Language and Culture *or* ANTH 244 Basic Archaeology	3cr
Two area ethnography courses: ANTH 271, 272, 273, or 314		6cr
Two additional Anthropology courses numbered 300 or above		6cr
History Distributional Requirements:		9
HIST 202	Western Civilization Since 1600	3cr
HIST 204	United States History to 1877	3cr
HIST 205	United States History Since 1877	3cr
Social Science Distribution Requirements:		9
GEOG 230	Cultural Geography	3cr
PLSC 280	Comparative Government I: Western Political Systems *or* PLSC 285 Comparative Government II: Non-Western Systems	3cr
SOC 151	Principles of Sociology *or* SOC 231 Contemporary Social Problems	3cr
Free Electives:		1
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.
(1) Students are required to take an additional 3cr or MATH beyond the Liberal Studies requirements for a total of 6cr, all of which must be 100 level or above.
(2) Courses counted toward Liberal Studies credits do not receive duplicate credit in major.

Minor–Anthropology 15

Required Course:

ANTH 110	Contemporary Anthropology	3cr

Controlled Electives:

Four additional courses in Anthropology	12cr

Anthropology Honors Track 12

Prerequisites: Declared major in Anthropology, completion of 60cr, and permission of department honors committee, academic advisor, and department chair

Required Courses:

ANTH 483/H/	Honors Thesis in Anthropology	6cr
CHSS 489/H/	Honors Colloquium	3cr
HNRC 499	Honors Senior Synthesis	*cr (1)

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

Department of Economics

Website: *www.iup.edu/economics*

Nicholas Karatjas, Chairperson; Dyal, Halvorson, J. Jozefowicz, S. Jozefowicz, Lewis, Potts, Radell, Yerger; and professors emeriti Martel, Stonebraker, Walker

Economics provides a background and educational base that open a broad range of professional, educational, and vocational opportunities. As part of a Humanities and Social Sciences degree, a Bachelor of Arts degree in Economics provides a liberal arts education, as well as professional and technical training. Indeed, many students completing an undergraduate major in Economics do not pursue careers as professional economists; they enter such fields as law, management, finance, and labor relations. By helping to develop a student's ability to think and communicate, economics provides a firm foundation upon which the student can build any one of a large number of possible careers.

Four different degree programs are available: a Bachelor of Arts degree in Economics that prepares students for immediate employment or graduate school; a Bachelor of Arts degree in Economics/Pre-Law track for students who wish to attend law school; a Bachelor of Arts degree in Economics/Mathematics combining courses in both areas to prepare students for graduate study in economics or possible immediate employment; and the Bachelor of Science in Education that prepares students to teach economics and other social sciences in secondary schools.

Either ECON 101 or 121 counts as a Liberal Studies social science course. However, ECON 101 is intended for students who will take only one course in the field. Students who anticipate taking more than one economics course should schedule ECON 121. ECON 101 will not count toward either a major or minor in economics and may not be taken after the successful completion of, or in concurrent registrations with, any other economics course.

Economics majors are encouraged to minor in one of the other Social Sciences, Business Administration, Mathematics, or Applied Statistics.

The Department of Economics houses the Center for Economic Education. The center is a nonprofit, nonpartisan organization affiliated with both the Pennsylvania Partnership for Economic Education and the National Council on Economic Education. Its mission is to upgrade the quality of economic education in kindergarten through twelfth grade. The center performs the following functions: teacher training, consulting services, research, materials development, and programs in economic education for adults. Dr. James J. Jozefowicz and Dr. Stephanie M. Jozefowicz are co-directors of the center.

Economics Honors Program

The honors program is open by departmental permission to Economics, Economics/Mathematics, and Economics/Pre-Law majors with a minimum 3.25 cumulative GPA and a 3.25 GPA in Economics courses. Students complete ECON 355, 356, 483, and HNRC 499, which fulfills the Liberal Studies Synthesis requirement. Students must earn at least a C in each course completed for the track. To determine how honors track courses will be integrated into existing requirements for the Economics, Economics/Mathematics, or Economics/Pre-Law major, students should consult their advisors.

To apply, an application should be filed with the chairperson of the Department of Economics.

Bachelor of Arts–Economics

Liberal Studies: As outlined in Liberal Studies section 54
with the following specifications:
Mathematics: MATH 121 (1)
Social Science: ECON 121
Liberal Studies Electives: 9cr, no courses with ECON prefix

College: 0-6
Foreign Language Intermediate Level (2)

Major: 27

Required Courses:

ECON 122	Principles of Microeconomics	3cr
ECON 355	Statistics for Economists	3cr (3)
ECON 421	Macroeconomic Analysis	3cr
ECON 422	Microeconomic Analysis	3cr

Controlled Electives:
Five other ECON courses (4, 5) 15cr

Free Electives: 33-39

Total Degree Requirements: 120

(1) MATH 115 or 123 may be substituted for MATH 121.
(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(3) MATH 214, 217, or 363 may be substituted for ECON 355.
(4) No more than 6cr of internship credit may be applied toward major.
(5) No more than one ECON Controlled Elective may be a 200-level course.

Bachelor of Arts–Economics/Pre-Law Track

Liberal Studies: As outlined in Liberal Studies section 54
with the following specifications:
Mathematics: MATH 121 (1)
Social Science: ECON 121
Liberal Studies Electives: 9cr, no courses with ECON prefix

College: 0-6
Foreign Language Intermediate Level (2)

Major: 24

Required Courses:

ECON 122	Principles of Microeconomics	3cr
ECON 355	Statistics for Economists (3)	3cr
ECON 421	Macroeconomic Analysis	3cr
ECON 422	Microeconomic Analysis	3cr

Controlled Electives:
Four other ECON courses (4, 5) 12cr

Other Requirements: Pre-Law Interdisciplinary Track 6-21
Seven courses, including at least one from each of six areas:
Business: ACCT 201, ACCT 202, BLAW 235
Criminology: CRIM 210, 215, 255
English: ENGL 212, 220, 310
History: HIST 320, 321, 346
Philosophy: PHIL 101, 222, 450
Political Science: PLSC 358, 359, 361

Free Electives: 15-36

Total Degree Requirements: 120

(1) MATH 115 or 123 may be substituted for MATH 121.
(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(3) MATH 214, 217, or 363 may be substituted for ECON 355.
(4) No more than 6cr of internship credit may be applied toward major.
(5) No more than one ECON Controlled Elective may be a 200-level course.

Bachelor of Arts–Economics/Mathematics

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 123
Social Science: ECON 121
Liberal Studies Electives: 9cr, no courses with ECON or MATH prefix

Major: 46-48
Core:

ECON 122	Principles of Microeconomics	3cr
ECON 421	Macroeconomics Analysis	3cr
ECON 422	Microeconomics Analysis	3cr
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 216	Probability and Statistics for Natural Sciences *or*	
ECON 355	Statistics for Economists	3-4cr

Economics Electives: (1, 2) 12cr
Students are especially encouraged to take ECON 334 and 356, but any course except ECON 101 may be used.
Mathematics Electives: 15-16cr
At least one of the following two-semester sequences:
MATH 241 and 371, MATH 363-364, or MATH 445-446
Three additional courses either from the above or from the following: MATH 271, 272, 342, 417 or 418, 421, 422, 423, 425, 427, 451, 465, 476, 477

Other Requirements: College: 0-6
Foreign Language Intermediate Level (3)

Free Electives: 12-20

Total Degree Requirements: 120

(1) No more than 6cr of internship credit may be applied toward major.
(2) No more than one ECON Controlled Elective may be a 200-level course.
(3) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science in Education–Social Studies Education/ Economics Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Mathematics: 3cr
Social Science: ANTH 110, ECON 121, and PSYC 101
Liberal Studies Electives: 6cr, GEOG 230, no courses with ECON prefix

College: 32

3 additional cr of MATH 100 level or above (in addition to Liberal Studies MATH) (1)		3cr
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Programs	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 455	Teaching of Social Studies in Secondary Schools	3cr

Major: 18
Required Courses:

ECON 122	Principles of Microeconomics	3cr
Controlled Electives: Upper-level Economics courses including at least one writing-intensive course and at least one course from each of the following three groups:		15cr
International courses: ECON 339, 345, 346, 350, 351		
Macroeconomic courses: ECON 325, 326, 343, 421		
Microeconomic courses: ECON 330, 331, 332, 333, 334, 335, 336, 361, 373, 383		

Other Requirements: 21
Social Studies Distribution:

GEOG XXX	200-level or higher Geography course	3cr
HIST 204	United States History to 1877	3cr
HIST 205	United States History Since 1877	3cr
PLSC 111	American Politics	3cr
PLSC 280	Comparative Government I: Western Political	
PLSC 285	Systems *or* Comparative Government II Non-Western Systems	3cr
Social Studies Minor		6cr (2)

Free Electives: 1

Total Degree Requirements: 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog. In order to student teach, students must have a 3.0 cumulative GPA in their major (social studies and economics courses). To be licensed to teach History, Geography, Economics, Civics, and Government, Social Studies Education/ Economics Track majors must apply for Citizenship Education certification.
(1) Students are required to take and additional 3cr of MATH beyond the Liberal Studies requirement for a total of 6cr, all of which must be at the 100 level or above.
(2) History is the recommended choice for a minor. However, students may complete a minor in any of the other Social Studies fields included in the Citizenship Education certification. Choosing a field other than history may require additional credits.

Minor–Economics **15**

Required Courses:

ECON 121	Principles of Macroeconomics	3cr
ECON 122	Principles of Microeconomics	3cr
Three courses from ECON 200 or higher		9cr

Economics Honors Track **12cr**

Required Courses:

ECON 355	Statistics for Economists	3cr
ECON 356/H/	Introduction to Econometrics	3cr
ECON 483/H/	Honors Thesis in Economics	3cr
HNRC 499	Honors Senior Synthesis	*cr (1)

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

Department of English

Website: *www.english.iup.edu*

Gail I. Berlin, Chair; Aghbar, Alvine, Bell, Bencich, Berlin, Black, Bower, Cahalan, Camp, Carse, Chow, Comfort, Craig, Dandurand, Downing, Dube, Emerick, Farrington, Fontaine, Gatti, Gebhard, Goebel, Hanauer, Hayward, Hurlbert, S. F. Johnson, Kraszewski, Marsden, Masiello, McAndrew, McClenahan, Nienkamp, Norris, Orchard, Pagnucci, Perdue, Huddleston Powers, Rafoth, Savova, Sell, Shafer, Sherwood, Sitler, Slater, Smits, Stilwell, Tannacito, Vella, Villa, Ware, Watson, Welsh, Wesley, M. M. Williamson, M. T. Williamson, Yang; and professors emeriti Betts, J. Bright, L. Bright, Brown, Craig, Davis, Freund, Gray, B. Hudson, Krupnik, Miller, Nania, Ray, Roffman, Roumm, Seinfelt, Smith, Swigart, Watta, K. Wilson, Woodworth

The program of studies in the English Department at IUP focuses on critical thinking and effective reading and writing at all levels. English majors study a wide variety of subjects ranging from literary theory to practical pedagogy, in an atmosphere that encourages and fosters a high degree of professional commitment.

Course choices depend upon a student's career goals; three specialized majors are offered, each of which undergoes regular revision to reflect the needs of students and the structure of a changing, competitive job market.

The Bachelor of Arts degree in English Humanities offers a wide range of courses in both traditional and nontraditional areas, which allows students to tailor their programs to reflect their own interests and career plans.

English/Pre-Law track offers specialized training for those interested in a career in law or some related field.

The English Education program offers special training for prospective secondary school teachers. IUP's consistent success in placing graduates from this major in teaching positions suggests that the program is highly regarded among educators outside the university.

English Humanities

The English Department's Bachelor of Arts degree in Humanities curriculum emphasizes the traditional concerns of English literary study by providing a common core of four courses that provide students with a uniform background in English and American literature, after which they are offered a wide range of choices in six substantial areas of required study. These required and controlled-elective courses constitute 30 credits of a major that totals 36; the remaining courses can be any upper-level English elective offerings, but students are urged to explore possibilities carefully with their advisors so as to complete the program best suited to their future goals.

Specifically, after completing the four prerequisite courses and the Liberal Studies English requirements, students must take

- one Period Course (Category A)
- one Form and Theory of Genre Course (Category B)
- one Alternative Literatures Course (Category C)
- one International Literatures Course (Category D)
- one Major Western Authors Course (Category E)
- one Writing, Speech, Linguistics Course (Category F)
- a minimum of ***two*** courses beyond these group requirements. These two courses may be from one or more of the groups or may be Topics Courses in literature, film, or literary theory.

Students, especially those for whom the B.A. is a terminal degree, are encouraged to seek an internship in their junior or senior year as a means of developing and demonstrating the skills they have acquired.

Since the major can be completed with 36 credits of coursework, students have 25-31 credits outside of the Liberal Studies requirements, depending on their foreign language status, of unspecified coursework. Students should explore their options carefully with their advisor. Beyond the basic requirements of the major, opportunities exist for students to elect courses allowing them to concentrate further in such areas as writing, film, and British or U.S. literature.

English/Pre-Law Track

Successful lawyers possess excellent skills in writing and speaking and can analyze a problem and explain its solution in clear, logical terms. Pre-Law English prepares the student especially well in these areas and provides the skills and knowledge needed to do well in the law school admissions examination.

Most graduates have had successful internships in the offices of practicing attorneys and government agencies, although an internship remains optional. Students wishing an internship should contact the department director of internships early in their career at IUP.

Education Program

The English Department offers a program leading to the Bachelor of Science in Education degree in English Education. This program has been accredited by the National Council for Accreditation of Teacher Education. Graduates are prepared to teach in middle, junior high, and senior high schools.

English Education majors fulfill all of the requirements for state certification, including practical experience in methods courses and student teaching; content preparation in a variety of literature, language, and composition courses; and philosophical background in current theories of teaching. Although most students choosing an English Education major will be best prepared for the secondary school classroom, those who opt not to teach will find that their speaking, writing, and management skills may also be useful to the media, governmental services, and business.

Program requirements are available at the English Department office and in the *English Education Handbook*. Majors must maintain a minimum cumulative GPA of 3.0. They must be formally admitted to English Education, a process that includes application and screening within the English Department as well as an application to the Teacher Certification Program in the College of Education. This screening involves review of the student's portfolio of written work and faculty evaluations as well as an interview with English Education faculty. Refer to the section "Admission to Teacher Education and Certification" in the College of Education and Educational Technology section of this catalog and the *English Education Handbook*.

Minor in English

To minor in English, 15 credits in English are required beyond the Liberal Studies requirement of ENGL 101, 121, and 202. Of these 15 credits, no more than 6 credits may be transferred to IUP from another university.

Students who choose to minor in English should, if their major department concurs, substitute ENGL 122 for ENGL 121.

English Honors Program

The honors program is open by departmental permission to declared English majors with a minimum 3.25 cumulative GPA and a 3.5 GPA in English courses. To determine how honors track courses will be integrated into existing requirements for the English major, students should consult their advisors or a member of the English honors track program committee (HTP).

To apply, students must submit a letter of application, a list of English courses taken (with instructors' names), and a portfolio demonstrating high-quality work in English courses, to the HTP. To be accepted, students must receive favorable evaluations from a majority of professors of courses taken and portfolio approval by the HTP committee.

Students complete ENGL 480/H/ Distinction in English Seminar, HNRC 499, which fulfills the Liberal Studies Synthesis requirement, and 6 credits in any combination of the following: ENGL 483 (0-6 cr) and 0-6 credits of H-designated major courses, 3 credits of which must be upper-level. Students must earn at least a B in each course completed for the honors track.

Bachelor of Arts–English

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Humanities-Literature: ENGL 122
Mathematics: 3cr
Liberal Studies Electives: 9cr, no courses with ENGL prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 36
Required Courses:

ENGL 210	British Literature to 1660	3cr
ENGL 211	British Literature 1660-1900	3cr
ENGL 212	American Literature: Beginnings to 1900	3cr
ENGL 213	British and American Literature Since 1900	3cr

Controlled Electives: (2, 3) 24cr
One course from Category A (Period): ENGL 301, 302, 303, 304, 305, 306, 307, 315, 316, 317, 319
One course from Category B (Form and Theory of Genre): ENGL 208, 214, 215, 216, 217, 332, 335, 337, 338
One course from Category C (Alternative Literatures): ENGL 225, 344, 348, 385, 386, 396
One course from Category D (International Literatures): ENGL 349, 354, 387, 391, 393, 394, 395, 397, 398, 399
One course from Category E (Major Western Authors): ENGL 430, 432, 434, 436
One course from Category F (Writing, Speech, Linguistics): ENGL 220, 221, 310, 311, 312, 313, 320, 322, 325, 326, 329, 330, 333, 334, 336, 420, 422
Two courses from Category G: Any combination of 6cr from ENGL 281, 356, 357, 390, 401, 460, 461, 462, 481, 482, 493, and/or any other courses listed above under categories A through F

Free Electives: (3) 25-31

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) Any ENGL 281, 481, or 482 course must have prior approval from department chair if it is to apply to the student's major other than in Category G.
(3) An internship, aside from counting for 6cr toward the major, makes the B.A. degree recipient much more employable by providing job experience. Students should see the English B.A. Program Internship Director for advice about available openings.

Bachelor of Arts–English/Pre-Law Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Humanities-Literature: ENGL 122
Mathematics: 3cr
Liberal Studies Electives: 9cr, no courses with ENGL prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 36
Required Courses:

ENGL 210	British Literature to 1660	3cr
ENGL 211	British Literature 1660-1900	3cr
ENGL 212	American Literature: Beginnings to 1900	3cr
ENGL 213	British and American Literature Since 1900	3cr

Controlled Electives: (2, 3) 24cr
One course from Category A (Period): ENGL 301, 302, 303, 304, 305, 306, 307, 315, 316, 317, 319
One course from Category B (Form and Theory of Genre): ENGL 208, 214, 215, 216, 217, 332, 335, 337, 338
One course from Category C (Alternative Literatures): ENGL 225, 344, 348, 385, 386, 396
One course from Category D (International Literatures): ENGL 349, 354, 387, 391, 393, 394, 395, 397, 398, 399
One course from Category E (Major Western Authors): ENGL 430, 432, 434, 436
One course from Category F (Writing, Speech, Linguistics): ENGL 220, 221, 310, 311, 312, 313, 320, 322, 325, 326, 329, 330, 333, 334, 336, 420, 422
Two courses from Category G: Any combination of 6cr from ENGL 281, 356, 357, 390, 401, 460, 461, 462, 481, 482, 493, and/or any other courses listed above under categories A through F

Other Requirements: Pre-Law interdisciplinary track 3-21
Seven courses, including at least one from each of six areas:
Business: ACCT 201, ACCT 202, BLAW 235
Criminology: CRIM 210, 215, 255
Economics: ECON 121, 122, 332
History: HIST 320, 321, 346
Philosophy: PHIL 101, 222, 450
Political Science: PLSC 358, 359, 361

Free Electives: (3) 4-28

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) Any ENGL 281, 481, or 482 course must have prior approval from department chair if it is to apply to the student's major other than in Category G.
(3) An internship with a law firm, public agency, or legislative office greatly strengthens law school applications.

Bachelor of Science in Education–English Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		48
Humanities-Literature: ENGL 122		
Mathematics: 6cr, MATH 101 or higher (1)		
Natural Science: Option I recommended (Option II also permitted, but will exceed credit limit)		
Social Science: PSYC 101		
Liberal Studies Electives: 0cr		
College:		6
Foreign Language Intermediate Level (2)		
College:		29
Preprufessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 452	Teaching of English and Communication in the Secondary School	3cr
Major:		37
Required Courses:		
ENGL 212	American Literature: Beginnings to 1900	3cr
ENGL 220	Advanced Composition I	3cr
ENGL 314	Speech and Communication in the Secondary English Classroom	3cr
ENGL 318	Literature for Adolescents	3cr
ENGL 323	Teaching Literature and Reading in the Secondary School	3cr
ENGL 324	Teaching and Evaluating Writing	3cr
ENGL 329	The History of the English Language	1cr
ENGL 330	The Structure of English	3cr
ENGL 434	Shakespeare	3cr
Controlled Electives:		
Choose one Genre course from Category B		3cr
Choose one British Literature Survey: ENGL 210, 211		3cr
Choose one Alternative Literature course from Category C		3cr
Choose one general English elective (any category)		3cr
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) The second MATH course is a teacher certification requirement and counts as Liberal Studies credits for Mathematics.

(2) If a student is able to exempt this requirement, an additional 6cr of free electives are necessary. Students with no previous foreign language background, or those who lack proficiency, will need to take the entry-level courses, which will increase the total number of cr required for the degree.

English Honors Track **12cr**

Prerequisites: Declared major in English, completion of ENGL 101, 122, and 202; 15cr in the major, including at least two survey courses; and permission of English honors track program committee

Required Courses:		
ENGL 480/H/	Distinction in English Seminar	3cr
HNRC 499	Honors Senior Synthesis	*cr (1)
6cr in any combination of the following options:		
ENGL 483/H/	Honors Thesis in English	0-6cr
Any H-designated English Course		0-6cr (2)

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

(2) If 6cr of H-designated coursework is the option chosen, then one of those H-designated courses must be 300- or 400-level.

Department of French and German

Website: *www.iup.edu/french-german*

Charles R. McCreary, Chairperson; Henry, Jones, Sullivan, Wallaert; and professors emeriti Fisel, Ready, Whitmer

The Department of French and German offers a varied curriculum designed to provide not only basic language instruction but also the more advanced competencies needed by language specialists and students hoping to take advantage of an international study experience.

French

For the French major, the department has three degree programs: the B.A. degree in French, the B.A. degree in French for International Trade, and the B.S.Ed. degree in French Education (K-12). The degree program in French for International Trade provides the solid undergraduate training preparatory to an M.B.A. in International Marketing and Finance.

Students majoring in French will acquire proficiency in all phases of language and enter more deeply into the history, culture, and literature of Francophone countries. They will also gain knowledge of the linguistic development of the language throughout the centuries. French majors generally find employment in government work, librarianship, journalism, foreign trade, airlines, tourism, business, and teaching. Students choosing careers as teachers will find the close supervision and advanced methodology offered by the department a distinct asset.

College Language Requirements

Students in the College of Humanities and Social Sciences and in most departments of the College of Natural Sciences and Mathematics must pass the intermediate sequence of a foreign language (in French, FRNC 201-202 or FRNC 203) or demonstrate that they have somehow acquired the equivalent proficiency level. Students from the other colleges may choose to take French (FRNC 201 and 202 or the accelerated FRNC 203) to fulfill a Liberal Studies elective. Any student who chooses French has an option to enroll in the traditional 3-credits-per-semester courses or the accelerated 6-credit track.

Placement/Exemption

The student with no previous French study will take FRNC 101 (4cr) as a prerequisite. Students with previous French study will be placed into the appropriate course level by means of a written departmental exam administered in the summer for entering freshmen and during the first week of the semester for other students. No student judged to be a native speaker of French will be allowed to enroll in any course below the 300 level, with the exception of FRNC 254.

Study Abroad–Nancy, France

IUP has established a study abroad center in Nancy, France. All majors are encouraged to participate in the Study Abroad Program, especially those seeking the International Trade degree. Students have an option to participate in a full-year or one-semester (spring) program. A six-week summer session has also been added to the options available. Nonmajors may be accepted into any of the programs and, unless they have advanced proficiency, must enter the language courses offered in the *Cours pour étrangers* (Courses for Foreign Students). All foreign program credits are evaluated by

the department as transfer credits. For further information about cost and application procedures, contact the French and German Department.

French Honors Program
The honors program is open by departmental permission to French majors with a minimum 3.25 cumulative GPA and a 3.25 GPA in French courses. To apply, students must have at least 57 credits earned and must submit two letters of reference from French faculty members and a two-page self-statement describing the student's academic and career goals.

Students complete FRNC 483/H; one literature course from FRNC 301 or above; CHSS 489 (a multidisciplinary colloquium emphasizing problem-solving, discussion, reading, and writing on a topic or theme); and HNRC 499, which fulfills the Liberal Studies Synthesis requirement. Students must earn at least a B in each course completed for the honors track.

To determine how honors track courses will be integrated into existing requirements for the French majors, students should consult their advisors.

Internships
The Department of French and German, through contacts with certain French companies and through its affiliation with the ICN (*Institut Commercial de Nancy*), is able to place interns in Paris and other sites in France. The internship (generally 6 to 12 credits) is viewed as a highly desirable culminating experience following study in Nancy. For information, contact the department at least six months in advance.

Bachelor of Arts–French

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		53
Mathematics: 3cr		
Liberal Studies Electives: 9cr, no courses with FRNC prefix		
College:		0
Foreign Language (included in major)		
Major:		36
Required Courses:		
FRNC 202	College French II	3cr
FRNC 254	Civilization of Modern France	3cr
FRNC 331	Intermediate French Conversation	3cr
FRNC 341	French Grammar	3cr
FRNC 353	Intermediate French Composition	3cr
FRNC 370	Introduction to French Literature	3cr
FRNC 373	French Civilization	3cr
FRNC 375	French Literature from Medieval through Seventeenth Century	3cr
FRNC 376	French Literature from Eighteenth through Twentieth Century	3cr
FRNC 441	Advanced French Grammar	3cr
Controlled Electives:		
One course from: FRNC 431, 432, 460, 462, 463		3cr
Any other 3cr from FRNC 253 and above (or study abroad)		3cr
Free Electives:		31
Total Degree Requirements:		120

Bachelor of Arts–French for International Trade

Liberal Studies: As outlined in Liberal Studies section with the following specifications.		54
Mathematics: 3cr, except MATH 217		
Social Science: ECON 121, PLSC 101, PSYC 101		
Liberal Studies Electives: 9cr, BTED/COSC/IFMG101, ECON 122, MATH 214, no course with FRNC prefix		
College:		0
Foreign Language (included in major)		
Major:		36
Required Courses:		
FRNC 202	College French II	3cr
FRNC 254	Civilization of Modern France	3cr
FRNC 331	Intermediate French Conversation	3cr
FRNC 341	French Grammar	3cr
FRNC 353	Intermediate French Composition	3cr
FRNC 354	Business French	3cr
FRNC 370	Introduction to French Literature	3cr
FRNC 373	French Civilization	3cr
FRNC 441	Advanced French Grammar	3cr
Controlled Electives: (1)		
One course from: FRNC 375, 376		3cr
Two additional FRNC electives (advanced levels)		6cr
Other Requirements:		
Business Sequence: (2)		24
ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
MGMT 310	Principles of Management	3cr
MGMT 350	International Business	3cr
MKTG 320	Principles of Marketing	3cr
Free Electives:		6
Total Degree Requirements:		120

(1) Most students earn additional language credits (up to 18) in semester or year abroad programs.
(2) Students not majoring in business may count a maximum of 30cr in business coursework toward the 120cr-degree minimum. Business credits in excess of 30 will be permitted only as credits beyond the 120 required for graduation.

Bachelor of Science in Education–K-12 French Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		50
Mathematics: 6cr, MATH 101 or higher		
Social Science: ANTH 110, PSYC 101		
Liberal Studies Electives: 3cr, no courses with FRNC prefix		
College:		29
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 453	Teaching of Foreign Languages in the Secondary School	3cr (1)
Major:		36
Required Courses:		
FRNC 202	College French II	3cr
FRNC 331	Intermediate French Conversation	3cr

FRNC 341	French Grammar	3cr
FRNC 353	Intermediate French Composition	3cr
FRNC 370	Introduction to French Literature	3cr
FRNC 373	French Civilization	3cr
FRNC 390	Teaching Elementary School Content in French and German	3cr
FRNC 432	French Phonetics and Phonology	3cr
FRNC 441	Advanced French Grammar	3cr
Controlled Electives:		
Any other 9cr from FRNC 253 and above		9cr

Free Electives: 5

Total Degree Requirements: 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.
(1) EDUC 453 is offered only in fall semester.

Minor–French **21**

Required Courses:		
FRNC 201	College French I	3cr
FRNC 202	College French II	3cr
FRNC 331	Intermediate French Conversation	3cr
FRNC 341	French Grammar	3cr
FRNC 353	Intermediate French Composition	3cr
FRNC 370	Introduction to French Literature	3cr
Controlled Elective:		
One course from: FRNC 253, 373, 375, 376, 431, 432		3cr

French Honors Track **12**

Prerequisites: Declared major in French, completion of at least 57cr, and permission of department honors committee
Required Courses:

CHSS 489/H/	Honors Colloquium	3cr
FRNC 483/H/	Honors Thesis in French	3cr
HNRC 499	Honors Senior Synthesis	*cr
FRNC XXX	One additional literature elective from FRNC 301 and above	3cr

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

German

For the German major, the department has three degree programs: the B.A. degree in German, the B.A. degree in German for International Trade, and the B.S. in Education degree in Secondary German Education.

While majoring in the German, students will acquire proficiency in all phases of the language and develop an understanding and appreciation of the history, culture, and literature of the German-speaking countries. They will also gain knowledge of the linguistic development of the language throughout the centuries. German majors may look forward to rewarding careers in teaching, government, journalism, foreign trade, tourism, business, and librarianship.

The degree program in German for International Trade provides an excellent way to combine language proficiency and cultural awareness in German with professional training in business. With this undergraduate background, students may enter M.B.A. degree programs and pursue careers in international business and trade. Study abroad for one or two semesters is strongly urged and is an integral part of the program. Qualified students may also choose to participate in internship programs with German-based corporations and financial institutions.

College Language Requirements

Students in the departments of the College of Humanities and Social Sciences and in most departments of the College of Natural Sciences and Mathematics must pass the intermediate sequence of a foreign language (GRMN 251 and 252) or demonstrate by the CLEP exam in German that they have acquired the equivalent proficiency level. Students from other colleges may elect to take two courses in German at the intermediate (III/IV) level toward fulfilling the requirement for Liberal Studies electives. Any student who chooses German can meet the requirement through enrollment in the traditional 3-credit courses or in the combined 6-credit courses.

Study Abroad

The department encourages all students who study German at IUP to consider study abroad for one or two semesters. German majors are strongly urged to study two semesters or one academic year at a German university. To provide this opportunity at a relatively modest cost, the university has arranged an exchange of students between Duisburg University and IUP. By participating in this or other approved programs, students can earn from 12 to 14 credits per semester. For information regarding the cost and application procedures, contact the office of the dean of the College of Humanities and Social Sciences.

Minor in German

Students completing 18 credits beyond GRMN 152 will be recognized as having minored in German. Nine of the twelve credits must be taken at the 300 level with only 3 credits from the conversation sequence, GRMN 221, 222, 321, 322. This achievement will be noted on the student's transcript and thus provide more career flexibility.

Bachelor of Arts–German

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: 3cr
Liberal Studies Electives: 9cr, no courses with GRMN prefix

College: 0
Foreign language (included in major)

Major: 36
Required Courses:

GRMN 221	Conversation III	2cr
GRMN 222	Conversation IV	2cr
GRMN 251	German III	3cr
GRMN 252	German IV (1)	3cr
GRMN 321	Advanced Conversation I	1cr
GRMN 322	Advanced Conversation II	1cr
GRMN 351	Advanced German Language I	3cr
GRMN 352	Advanced German Language II	3cr
GRMN 361	Development of German Culture and Literature I	3cr
GRMN 362	Development of German Culture and Literature II	3cr
Controlled Electives:		
Other GRMN electives (advanced levels)		12cr (2)

Free Electives: 31

Total Degree Requirements: 120

(1) GRMN 253 or 254 may be substituted for GRMN 252.
(2) Department recommends at least one additional literature course (GRMN 363-371) and one linguistics course (GRMN 410 or in Germany).

Bachelor of Arts–German for International Trade

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** 3cr, any Liberal Studies Mathematics course except MATH 217 **Social Science:** ECON 121 **Liberal Studies Electives:** 9cr, BTED/COSC/IFMG 101, ECON 122, MATH 214, no courses with GRMN prefix		54
College: Foreign Language (included in major)		0
Major:		36
Required Courses:		
GRMN 221	Conversation III	2cr
GRMN 222	Conversation IV	2cr
GRMN 251	German III	3cr
GRMN 252	German IV	3cr
GRMN 253	Intermediate Composition and Conversation	3cr
GRMN 254	Business German	3cr
GRMN 321	Advanced Conversation I	1cr
GRMN 322	Advanced Conversation II	1cr
GRMN 351	Advanced German Language I	3cr
GRMN 352	Advanced German Language II	3cr
GRMN 361	Development of German Culture and Literature I	3cr
GRMN 362	Development of German Culture and Literature II	3cr
Controlled Electives:		
Two additional GRMN electives (advanced levels)		6cr (1)
Other Requirements:		
Business Sequence: (2)		24
ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
FIN 310	Fundamentals of Finance	3cr
MGMT 310	Principles of Management	3cr
MGMT 350	International Business	3cr
MKTG 320	Principles of Marketing	3cr
Free Electives:		6
Total Degree Requirements:		120

(1) Most students earn additional language credits (usually 12-14) in semester study abroad.

(2) Students not majoring in business may count a maximum of 30cr in business coursework toward the 120cr-degree minimum. Business credits in excess of 30 will be permitted only as credits beyond the 120 required for graduation.

Bachelor of Science in Education–Secondary German Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** 6cr, MATH 101 or higher **Social Science:** PSYC 101 **Liberal Studies Electives:** 3cr, no courses with GRMN prefix		50
College:		29
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	3cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 453	Teaching of Foreign Languages in the Secondary School	3cr
Major:		36
Required Courses:		
GRMN 221	Conversation III	2cr
GRMN 222	Conversation IV	2cr
GRMN 251	German III	3cr
GRMN 252	German IV	3cr
GRMN 321	Advanced Conversation I	1cr
GRMN 322	Advanced Conversation II	1cr
GRMN 351	Advanced German Language I	3cr
GRMN 352	Advanced German Language II	3cr
GRMN 361	Development of German Culture and Literature I	3cr
GRMN 362	Development of German Culture and Literature II	3cr
GRMN 390	Teaching Elementary School Content in French and German	3cr
Controlled Electives:		
Other GRMN electives		9cr
Free Electives:		5
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

Department of Geography and Regional Planning

Website: *www.iup.edu/geography*

Robert P. Sechrist, Chairperson; Begg, Bencloski, Benhart, Buckwalter, Masilela, Okey, Patrick, G. Sechrist, Shirey, Watts; and professors emeriti Forbes, Gault, Miller, Tepper, Weber

The Department of Geography and Regional Planning offers three separate degree programs for the geographer, planner, and teacher.

Geography has several traditions of study. Two of the more important traditions are the study of relationships between humans and environment, or the ecological tradition, and the study of spatial organization, which involves the way people use space on the earth's surface. In both traditions the focus is on understanding regions of the world and the interactions within and between them. Geographers make important contributions to the understanding of all aspects of humankind's use of and impact on the earth's surface.

Regional Planning involves preparing for the future. The demands and effects of a large and growing population require that land use, resource use, settlement patterns, transportation systems, and economic activity be planned. Regional planning is concerned with the social, locational, and environmental aspects of these planning decisions. Today, economic development has become an important focus for planners.

The geography track in social studies education offers a geography major equivalent for the student interested in teaching at the junior or senior high levels. The Pennsylvania certification will be in citizenship. New education requirements instituted for the commonwealth specify that geography be

taught at all levels in Pennsylvania. Nationally, geography is one of the core subject areas named in the National Education Goals program.

Geography and Regional Planning are in the same department, because "Planning is the art of which geography is the science." Employment opportunities for geographers and regional planners are excellent. Geography and planning occupations have been identified among the fastest-growing job fields by *U.S. News and World Report*. Alumni occupy a wide variety of positions in government, business, industry, planning, and education. Environmental, locational, and spatial knowledge gained in the department's programs provides skills desperately needed in today's job market. Students interested in obtaining additional career information should visit the departmental office in Room 10, Leonard Hall or visit our website at *www.iup.edu/geography*.

Three degree programs are offered by the department: Bachelor of Arts degree in Geography, Bachelor of Science degree in Regional Planning, and Bachelor of Science in Education in Social Studies Education/Geography Track.

In addition to the geography core (GEOG), there are four tracks for specific geographic competencies: GIS/Cartographer, Environmental Geographer, Economic Geographer, and General Geographer. The regional planning (RGPL) major offers specific career opportunities in four somewhat parallel tracks: GIS/Cartographer, Environmental Planner, Economic Planner, and Town Manager.

A minor in geography or regional planning is appropriate for majors in all other fields of the natural and social sciences. Students in marketing and information systems will find a minor in either field relevant. A minor consists of 15 credits in GEOG or RGPL courses. The department suggests students take the core in either program if graduate study is anticipated.

Department resources, which include the James E. Payne GIS/Cartography Lab, offer access to advanced geographic analysis equipment and resources. The fully equipped computer lab also houses color printers, digitizers, large-format plotters and scanners, and appropriate mapping software. The most heavily used software includes ARC/INFO, ArcView, MapInfo, Atlas*GIS, IDRISI, AutoCAD, and MiniCAD.

An important part of student education is involvement in community service projects. The Spatial Sciences Research Center (SSRC), Robert Wilson, director, coordinates these projects and student skills and interests. Students are usually compensated for their efforts. The SSRC has facilities for GIS database development and, GIS analysis, atlas production, map compilation, and cartographic production. Examples of SSRC projects include: Huntingdon County GIS; Cranberry Twp., Butler County GIS; Indiana Borough GIS; PA One Call System (call before you dig) GIS; Blacklick Creek Watershed Plan and Implementation; Pennsylvania Soil Mapping Project; Pennsylvania Department of Labor and Industry; and United States Department of Transportation Pipeline Mapping Repository.

The department also houses the Census Documents and Data Library, coordinated by Rebecca Reinhold. In conjunction with Stapleton Library, holdings include population/housing/socioeconomic/mapping database CDs and other publications used for teaching, research, and planning in community service and local and county governments. The department is also an affiliate of the Bureau of Economic Analysis at the Census Bureau and a repository for USGS digital data.

The department houses both the National Council for Geographic Education (NCGE), which serves geography educators at all levels with activities and programs that address geography learning and instructional and research issues in North America, and the Pennsylvania Geographic Alliance (PGA), which is supported by the Pennsylvania Department of Education. PGA provides leadership and professional development opportunities in geography teaching and learning in Pennsylvania. Ruth Shirey is executive director of NCGE and one of two PGA coordinators in Pennsylvania.

A strong internship program directed by John E. Benhart offers placement in industry, engineering, conservation, land management, and planning agencies at the local, state, and federal levels.

Specific core requirements in Geography and Regional Planning offer a structured approach for majors. Appropriate subfields or tracks are available in both programs to prepare students for graduate work and to support different career options for majors. There are four tracks for the geography major and four tracks for the regional planning major.

- **Geography–General Geography Track**

The General Geography Track encourages the major to sample courses from different subfields of the discipline. This track prepares the major for graduate work in geography and related fields of employment. Job options include report writing, research analysis, and data gathering. In government employment, the State Department, Department of Commerce, and the Census Bureau are significant places for geography skills.

- **Geography–Geographic Information Systems and Cartographer Track**
- **Regional Planning–Geographic Information Systems and Cartographer Track**

The Geographic Information Systems and Cartographer Track prepares students for employment as Geographic Information System Specialists, Facilities Managers, Cartographers, and Remote Sensing professionals. Coursework includes methods for identifying, modeling, and analyzing the spatial organization of human and environmental systems from both practical and theoretical perspectives. Data collection, spatial information management, and graphic presentation are integral skills taught in track courses. Such skills could be used, for example, for analysis of wildlife habitat, utility facility management, or transportation system design and maintenance.

- **Geography–Economic Geographer Track**
- **Regional Planning–Economic Developer Track**

The Economic Track provides a broad framework of ideas and theories in addition to a task-oriented approach to location analysis. Site planners articulate the needs of the community for economic space, the demands for convenient transport, the role of private enterprise, and the management of growth. This interrelated group of courses is useful to students, because economic geographers and developers are expected to analyze the interactions of concepts and variables. Market analysis for the location of new shopping centers, for example, requires understanding of economic principles, population characteristics, and the local political milieu, all in a spatial context.

- **Geography–Environmental Geographer Track**
- **Regional Planning–Environmental Planner Track**

The Environmental Track is designed to prepare majors in geography or regional planning for careers in environmental fields or graduate study that leads to a variety of environmental positions. Students who elect this track will acquire knowledge of the physical and human processes that shape the environment, strategies for analyzing environmental issues, and concepts that underlie strategies for ameliorating environmental problems. The skills acquired in this track will enable students to assess the causes, consequences, and solutions to a wide variety of environmental issues such as water pollution, acid rain, or tropical deforestation.

- **Regional Planning–Town Manager Track**

The Town Manager Track is designed to prepare planning students for careers in local government and graduate work in public administration. Students electing this track will become familiar with the structure, operation, and actions of municipal government and the political, organizational, and institutional basis of municipal management and decision making. Skills acquired with this track will enable students to undertake a variety of analytic activities designed to describe, project, and prescribe courses of action for municipal improvement.

Bachelor of Arts–Geography/General Geography Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 121 or 217
Liberal Studies Electives: 9cr, no courses with GEOG prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 36
Required Courses:

GEOG 213	Cartography I	3cr
GEOG 230	Cultural Geography	3cr
GEOG 231	Economic Geography	3cr
GEOG 411	History of Geography	3cr
GEOG 412	Research Seminar	3cr

Controlled Electives:

One course from GEOG 251-257	3cr
One course from GEOG 341-342	3cr
Five courses (15cr) from any GEOG courses (only one GEOG 100-level course permitted)	15cr

Free Electives: 25-31

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts–Geography/GIS and Cartographer Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 121 or 217
Liberal Studies Electives: 9cr, BTED/COSC/IFMG101 recommended; no courses with GEOG prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 36
Required Courses:

GEOG 213	Cartography I	3cr
GEOG 230	Cultural Geography	3cr
GEOG 231	Economic Geography	3cr
GEOG 411	History of Geography	3cr
GEOG 412	Research Seminar	3cr

Controlled Electives:

One course from GEOG 251-257	3cr
One course from GEOG 341-342	3cr

Track Courses:

GEOG 313	Cartography II	3cr
GEOG 314	Map and Photograph Interpretation	3cr
GEOG 316	Introduction to Geographic Information Systems	3cr
GEOG 415	Remote Sensing	3cr
GEOG 417	Technical Issues in GIS	3cr

Free Electives: 25-31

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts–Geography/Economic Geographer Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 121 or 217
Social Science: ECON 121
Liberal Studies Electives: 9cr, ECON 122, no courses with GEOG prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 36
Required Courses:

GEOG 213	Cartography I	3cr
GEOG 230	Cultural Geography	3cr
GEOG 231	Economic Geography	3cr
GEOG 411	History of Geography	3cr
GEOG 412	Research Seminar	3cr

Controlled Electives:

One course from GEOG 251-257	3cr
One course from GEOG 341-342	3cr

Track Courses: Five courses from the following:

GEOG 331	Population Geography	3cr
GEOG 332	Urban Geography	3cr
GEOG 333	Trade and Transportation	3cr
GEOG 334	Political Geography	3cr
GEOG 336	Social Geography	3cr
GEOG 464	Land Use Policy	3cr

Free Electives: 25-31
ECON 383 Urban/Regional Economics (recommended)

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts–Geography/Environmental Geographer Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 121 or 217
Liberal Studies Electives: 9cr, COSC/IFMG/BTED 101 recommended, no courses with GEOG prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 36
Required Courses:

GEOG 213	Cartography I	3cr
GEOG 230	Cultural Geography	3cr
GEOG 231	Economic Geography	3cr
GEOG 411	History of Geography	3cr
GEOG 412	Research Seminar	3cr

Controlled Electives:

One course from GEOG 251-257	3cr
One course from GEOG 341-342	3cr (2)

Track Courses: Five courses from the following: 15cr

GEOG 314 Map and Photograph Interpretation
GEOG 316 Introduction to Geographic Information Systems
GEOG 335 Geography of Energy
GEOG 341 Climatology
GEOG 342 Physiography
GEOG 343 Geography of Fresh Water Resources

GEOG 345	Biogeography for Environmental Managers	
GEOG 415	Remote Sensing	
GEOG 440	Conservation: Environmental Analysis	

Free Electives: 25-31

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) The same course cannot also count in the track.

Bachelor of Science–Regional Planning/GIS and Cartographer Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: MATH 121 or 217
Liberal Studies Electives: 9cr, BTED/COSC/IFMG 101 recommended, no courses with RGPL prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 42
Required Courses in Planning:

RGPL 213	Cartography I	3cr
RGPL 316	Introduction to Geographic Information Systems	3cr
RGPL 350	Introduction to Planning	3cr
RGPL 352	Planning Methods	3cr
RGPL 353	Planning Design I	3cr
RGPL 412	Research Seminar	3cr
RGPL 454	Planning Design II	3cr
RGPL 458	Land Use Law	3cr
RGPL 464	Land Use Policy	3cr
RGPL 468	Planning Theory	3cr

Track Courses:

RGPL 313	Cartography II	3cr
RGPL 314	Map and Photograph Interpretation	3cr
RGPL 415	Remote Sensing	3cr
RGPL 417	Technical Issues in GIS	3cr

Free Electives: 19-25
RGPL 493 Internship (strongly recommended) 1-12cr

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science–Regional Planning/Economic Developer Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: MATH 121 or 217
Social Science: ECON 121
Liberal Studies Electives: 9cr, ECON 122, no courses with RGPL prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 42
Required Courses in Planning:

RGPL 213	Cartography I	3cr
RGPL 316	Introduction to Geographic Information Systems	3cr
RGPL 350	Introduction to Planning	3cr
RGPL 352	Planning Methods	3cr
RGPL 353	Planning Design I	3cr
RGPL 412	Research Seminar	3cr
RGPL 454	Planning Design II	3cr
RGPL 458	Land Use Law	3cr
RGPL 464	Land Use Policy	3cr
RGPL 468	Planning Theory	3cr

Track Courses: Four courses from the following: 12cr

GEOG 231	Economic Geography
GEOG 331	Population Geography
GEOG 334	Political Geography
RGPL 332	Urban Geography
RGPL 333	Trade and Transportation

Free Electives: 19-25
RGPL 493 Internship (strongly recommended) 1-12cr

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science–Regional Planning/Environmental Planner Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: MATH 121 or 217
Liberal Studies Electives: 9cr, BTED/COSC/IFMG101 recommended, no courses with RGPL prefix

College:
Foreign Language Intermediate Level (1) 0-6

Major: 42
Required Courses in Planning:

RGPL 213	Cartography I	3cr
RGPL 316	Introduction to Geographic Information Systems	3cr
RGPL 350	Introduction to Planning	3cr
RGPL 352	Planning Methods	3cr
RGPL 353	Planning Design I	3cr
RGPL 412	Research Seminar	3cr
RGPL 454	Planning Design II	3cr
RGPL 458	Land Use Law	3cr
RGPL 464	Land Use Policy	3cr
RGPL 468	Planning Theory	3cr

Track Courses: Four courses from the following: 12cr

GEOG 335	Geography of Energy
GEOG 341	Climatology
GEOG 342	Physiography
GEOG 343	Geography of Fresh Water Resources
GEOG 345	Biogeography for Environmental Managers
GEOG 440	Conservation: Environmental Analysis
RGPL 314	Map and Photograph Interpretation
RGPL 415	Remote Sensing

Free Electives: 19-25
RGPL 493 Internship (strongly recommended) 1-12cr

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science–Regional Planning/Town Manager Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Social Science:** PLSC 111 recommended **Mathematics:** MATH 121 or 217 **Liberal Studies Electives:** 9cr, BTED/COSC/IFMG101, GEOG 230, no courses with RGPL prefix		53
College:		
Foreign Language Intermediate Level (1)		0-6
Major:		42
Required Courses in Planning:		
RGPL 213	Cartography I	3cr
RGPL 316	Introduction to Geographic Information Systems	3cr
RGPL 350	Introduction to Planning	3cr
RGPL 352	Planning Methods	3cr
RGPL 353	Planning Design I	3cr
RGPL 412	Research Seminar	3cr
RGPL 454	Planning Design II	3cr
RGPL 458	Land Use Law	3cr
RGPL 464	Land Use Policy	3cr
RGPL 468	Planning Theory	3cr
Track Courses:		
Either:		
PLSC 354 and 355	Metropolitan Problems/ Intergovernmental Relations	3cr 3cr
Or:		
PLSC 370 and 371	Introduction to Public Administration/ Issues in Public Administration	3cr 3cr
And two courses from the following:		6cr
GEOG 231	Economic Geography	
RGPL 332	Urban Geography	
RGPL 333	Trade and Transportation	
Free Electives:		19-25
PLSC 251	State and Local Political Systems (recommended)	3cr
RGPL 493	Internship (strongly recommended)	1-12cr
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science in Education–Social Studies Education/ Geography Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Humanities-History:** fulfilled by required courses in minor **Mathematics:** 6cr **Social Science:** ECON 121, GEOG 102, PSYC 101 **Liberal Studies Electives:** 3cr, ECON 122, no courses with GEOG prefix		48
College:		29
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Programs	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 455	Teaching of Social Studies in Secondary Schools	3cr
Major:		24
Required Courses:		
GEOG 213	Cartography I	3cr
GEOG 230	Cultural Geography	3cr
Controlled Electives:		
At least two courses from each of the following three groups:		18cr
Environmental Geography: GEOG 341, 342, 343, 345, 440		
Human Geography: GEOG 231, 331, 332, 333, 334, 335, 336, 337, 431		
Regional Geography: GEOG 251, 252, 253, 254, 255, 256, 257		
Social Science Distribution Requirements:		18
HIST 201	Western Civilization Before 1600 (1)	3cr
HIST 202	Western Civilization Since 1600 (1)	3cr
HIST 204	United States History to 1877	3cr
HIST 205	United States History Since 1877	3cr
PLSC 111	American Politics	3cr
PLSC 280 PLSC 285	Comparative Government I: Western Political Systems *or* Comparative Government II: Non-Western Systems	3cr
Free Elective:		1
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) For students who have received credit for HIST 195 prior to becoming Social Studies Education majors, this course may not be appropriate. Consult advisor.

Department of History

Website: *www.iup.edu/history*

Gary L. Bailey, Chairperson; Arpaia, Baumler, Bodle, Botelho, Cashdollar, Finegan, Franklin-Rahkonen, Lu, Maynard, Moore, Ricketts, Schroeder, Wang, Whited; and professors emeriti Cord, Fricke, Gallanar, Gelbach, Goodrich, Hatfield, Landon, Larner, Lehman, Marcus, Mastro, Miller, Oliver, Rife, Smith, Vogel, Wiley

Programs in history are designed to give both those who major in history in the College of Humanities and Social Sciences and those who concentrate in history in the College of Education and Educational Technology an opportunity to study in some depth the past story of peoples and their world. Degrees offered by the History Department are the Bachelor of Arts degree in History and the Bachelor of Science in Education with a major in Social Studies, concentrating in history. The first program is under the College of Humanities and Social Sciences, and the second is under the College of Education and Educational Technology.

The history student will find that the program is excellent preparation for government service, for pre-law training, for broad business opportunities, for work in varied fields of journalism, for public history positions, and for teaching. Not only the story of the people of the United States but also

that of other peoples is covered, in the belief that global historical understanding is essential for the future of civilization

Requirements for the degree of Bachelor of Arts degree in History are 36 credits in history. Requirements for the degree of Bachelor of Science in Education with a major in Social Studies, concentrating on history, are a minimum of 27 credits in history within the 54 credits required for social studies certification. The requirement for a minor in history is 15 credits of courses with an HIST prefix. For majors in history programs, courses in history in Liberal Studies are applicable only if numbered 300 or higher. All programs should be planned with an advisor. Every major and concentrate in history will be advised by History Department faculty members.

Admission to HIST 482 and 483, initiation in the local chapters of Phi Alpha Theta and Pi Gamma Mu, participation in study tours and study abroad programs, and other activities should be investigated by every history student. The department is committed to the ideal of a broad liberal arts education.

Bachelor of Arts–History

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Humanities-History:** fulfilled by required courses in major **Mathematics:** 3cr **Liberal Studies Electives:** 9cr, no courses with HIST prefix		50
College: Foreign Language Intermediate Level (1)		0-6
Major:		36
Required Courses:		
HIST 200	Introduction to History	3cr
HIST 480	Senior Seminar (2)	3cr
Controlled Electives:		
At least three foundation courses from the following: (3)		9cr
HIST 201	Western Civilization Before 1600 (4)	
HIST 202	Western Civilization Since 1600 (4)	
HIST 204	United States History to 1877	
HIST 205	United States History Since 1877	
HIST 206	History of East Asia	
HIST 208	Survey of Latin American History	
One course from HIST 401-404 (Topics)		3cr
One Non-Western HIST course: Latin America, Africa, Asia, Middle East, or Russia, 300 or 400 level		3cr
Five additional history courses (5)		15cr
Free Electives:		28-34
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) This requirement may be fulfilled by completing either the departmental honors program or graduate seminar with a concluding paper.
(3) No more than 12cr in foundation courses may be counted towards the major.
(4) For students who have taken HIST 195, 210, 212, or 214 prior to becoming History majors, this course may not be appropriate. Consult History advisor before scheduling.
(5) Courses selected from 300- and 400-level offerings; no more than 6cr from HIST 493 as major elective. Students who have taken three foundation courses must take at least seven 300-400 level HIST courses in addition to HIST 480. Those with four foundation courses need take only six 300-400 level HIST courses in addition to HIST 480.

Bachelor of Arts–History/Pre-Law Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** 3cr **Humanities-History:** fulfilled by required courses in major **Liberal Studies Electives:** 9cr, no courses with HIST prefix		50
College: Foreign Language Intermediate Level (1)		0-6
Major:		36
Required Courses:		
HIST 200	Introduction to History	3cr
HIST 480	Senior Seminar (2)	3cr
Controlled Electives:		
At least three foundation courses from the following: (3)		9cr
HIST 201	Western Civilization Before 1600 (4)	
HIST 202	Western Civilization Since 1600 (4)	
HIST 204	United States History to 1877	
HIST 205	United States History Since 1877	
HIST 206	History of East Asia	
HIST 208	Survey of Latin American History	
One course from HIST 401-404 (Topics)		3cr
One Non-Western HIST course: Latin America, Africa, Asia, Middle East, or Russia, 300 or 400 level		3cr
Five additional history courses (5)		15cr
Other Requirements: Pre-Law interdisciplinary track Seven courses, including at least one from each of six areas: *Business:* ACCT 201, ACCT 202, BLAW 235 *Criminology:* CRIM 210, 215, 255 *Economics:* ECON 121, 122, 332 *English:* ENGL 212, 220, 310 *Philosophy:* PHIL 101, 222, 450 *Political Science:* PLSC 358, 359, 361		3-21
Free Electives:		7-31
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) This requirement may be fulfilled by completing either the departmental honors program or graduate seminar with a concluding paper.
(3) No more than 12cr in foundation courses may be counted towards the major.
(4) For students who have received credit for HIST 195, 210 or 212, prior to becoming history majors, this course may not be appropriate. Consult History advisor before scheduling.
(5) Courses selected from 300- and 400-level offerings; no more than 6cr from HIST 493 as major elective. Students who have taken three foundation courses must take at least seven 300- and 400-level HIST courses in addition to HIST 480. Those with four foundation courses need take only six 300- and 400-level HIST courses in addition to HIST 480.

Bachelor of Science in Education–Social Studies Education/ History Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Humanities-History:** fulfilled by required courses in major **Mathematics:** 3cr **Social Science:** ANTH 110, ECON 121, and PSYC 101 **Liberal Studies Electives:** 6cr, ECON 122, GEOG 230, no courses with HIST prefix		48

College:		32
3 additional cr of MATH 100 level or above (in addition to Liberal Studies MATH) (1)		3cr
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Programs	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 455	Teaching of Social Studies in Secondary Schools	3cr

Major:		
Foundation Courses: (2)		27
HIST 201	Western Civilization Before 1600 (3)	3cr
HIST 202	Western Civilization Since 1600 (3)	3cr
HIST 204	United States History to 1877	3cr
HIST 205	United States History Since 1877	3cr
Research Courses:		
HIST 200	Introduction to History	3cr
HIST 401-404	Topics *or* HIST 480 Senior Seminar (4)	3cr
Controlled Electives:		9cr
One Non-Western History course: Latin America, Africa, Asia, Russia, 300 or 400 level		
One United States History course at the 300 or 400 level		
One History course at the 300 or 400 level		

Social Science Distribution:		12
GEOG XXX	200-level or higher Geography course	3cr
PLSC 111	American Politics	3cr
PLSC 280	Comparative Government I: Western Political Systems *or* PLSC 285 Comparative Government II: Non-Western Systems	3cr
SOC 337	World Societies and World Systems *or* SOC 362 Racial and Ethnic Minorities *or* SOC 231 Contemporary Social Problems	3cr

Free Electives:	1
Total Degree Requirements:	120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog. In order to student teach, students must have a 3.0 cumulative GPA in their major (social science and history courses). To be licensed to teach History, Geography, Economics, Civics, and Government, Social Studies Education/History majors must apply for Citizenship Education certification.

(1) Students are required to take an additional 3cr of MATH beyond the Liberal Studies requirement for a total of 6cr, all of which must be 100 level or above.

(2) In exceptional cases, the student's advisor may give special permission to substitute two upper-level courses for one of the foundation courses.

(3) For students who have received credit for HIST 195, 210, or 212 prior to becoming History majors, this course may not be appropriate. Consult History advisor before scheduling.

(4) This requirement may be fulfilled by completing either the departmental honors program or graduate seminar with a concluding paper.

History Honors Program

The honors program is open by departmental permission to History, History Pre-Law, and Social Studies Education/History majors with a minimum 3.25 cumulative GPA and a 3.5 GPA in History courses. Students complete at least one semester of HIST 487 (a variable-topic course open also to students in the Robert E. Cook Honors College) and two semesters of honors thesis research and writing. Honors theses are completed individually under the direction of a department professor who specializes in the student's area of interest and are approved by a thesis committee comprising the director and two other readers, one of whom may come from outside the History Department. Honors History courses count toward the major; completion of an honors thesis substitutes for HIST 480.

Students interested in the History Honors program should discuss this opportunity as early as possible with their advisors. Students may file a declaration of intent during the sophomore year; a formal application for admission must be made, normally early in the junior year. The program is particularly encouraged for students intending to seek admission to graduate or professional schools. Honors coursework is designated on university transcripts; students completing the departmental honors program are recognized at departmental commencement ceremonies.

History Honors Track		**9**
HIST 483	Honors Thesis/Independent Study	6cr (1)
HIST 487	Honors Colloquium in History	3cr

(1) Two semesters, 3cr each

Department of Journalism

Website: *www.iup.edu/journalism*

Robert H. Russell, Chairperson; Ankney, Heilman, Jesick, Loomis, Mukasa; and professors emeriti DeGeorge, Furgiuele, Truby

Students interested in a career in news-editorial or public relations fields, with opportunities in such related areas as magazines, advertising, desktop publishing, computer-assisted reporting, and marketing, should enjoy this innovative, flexible program. The journalism major combines journalism elective courses, the student's choice of a variety of courses from other university departments, plus internships which provide on-the-job experience.

The IUP journalism major is flexible for the individual student, who decides, with an advisor, what directions his or her education will take for a mass communication career.

A student wishing to enter the program becomes a journalism major in the College of Humanities and Social Sciences. Then, the student chooses an individual program within a large group of elective journalism courses, plus a much larger group of courses from various other areas of the university. A student who completes the major graduates with a B.A. degree in Journalism. Because journalism itself covers all areas of life, the journalism major covers many areas of study preparation. There are only four required courses, so the student is free to mold the program to his/her own special interests through both major and free electives.

The journalism major will use journalism courses to fulfill the minimum of 30 hours required for the major. All journalism majors must complete the intermediate sequence of a foreign language. This may be done in one of three ways: by examination, by earning credit in third and fourth levels of a foreign language, or by completing four levels of a new language. If the last procedure is used, the two beginning foreign language courses may be applied as free electives to the total number of credits needed for graduation.

The Department of Journalism offers an 18-credit minor designed to complement any major. Three 3-credit courses are required: JRNL 105, 102, and 120. The remaining 9 credits may be taken from the following

list of Journalism major courses: JRNL 326, 338, 344, 347, 375, and designated Special Topics courses. Internship credits do not apply toward the 18-credit minor; however, a student in the minor program may take an internship and apply the credits as free electives.

Course Sequence

The journalism faculty offers the following operational policy for its course sequence and prerequisites. The basic idea is for students to take Level I courses prior to Level II courses, etc. We ask that special attention be given to course prerequisites to avoid scheduling students without proper experience into courses. We do retain flexibility of waiving sequence and prerequisites in individual cases.

Level I

JRNL 102	Basic Journalistic Skills*
JRNL 105	Journalism and the Mass Media*
JRNL 120	Journalistic Writing**
JRNL 220	Writing for the Print Media*

*required for all journalism majors and minors
** for journalism minors and nonmajors

Level II

JRNL 243	History of the American Press
JRNL 250	Women and the Press
JRNL 321	Feature Writing
JRNL 326	Public Relations I
JRNL 327	Layout, Design, and Production
JRNL 328	News Reporting (required for all journalism majors)
JRNL 337	Editing
JRNL 344	Issues and Problems
JRNL 345	Sports Journalism
JRNL 375	World News Coverage
JRNL 393	Document Design I

Level III

JRNL 347	Journalism Law
JRNL 348	The Editorial Page
JRNL 423	Management in Mass Communications
JRNL 427	Publications
JRNL 430	Public Opinion and the News Media
JRNL 446	Research Methods in Journalism
JRNL 450	Advertising Writing
JRNL 482	Independent Study
JRNL 490	Public Relations II
JRNL 491	Presentation Making
JRNL 492	Problem-solving in Public Relations
JRNL 493	Internship
JRNL 494	Document Design II

Bachelor of Arts–Journalism

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		53-55
Mathematics: 3cr		
Liberal Studies Electives: 9cr, no courses with JRNL prefix		
College:		0-6
Foreign Language Intermediate Level (1)		
Major:		30
Required Courses:		
JRNL 102	Basic Journalistic Skills	3cr
JRNL 105	Journalism and the Mass Media	3cr
JRNL 220	Writing for the Print Media	3cr
JRNL 328	News Reporting	3cr
Controlled Electives:		
Other JRNL courses (as listed in this catalog) (2)		18cr
Other Requirements:		0
Department recommends a planned program of dual major, minor(s), or electives (3, 4)		
Free Electives:		29-37
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) Maximum of 6cr of internship applied to major.
(3) Students may take no more than 15cr outside the College of Humanities and Social Sciences without prior approval of advisor.
(4) Majors in the public relations sequence should make every effort to schedule BTST 321, MKTG 320, and MKTG 433.

Minor–Journalism **18 (1)**

Required Courses:		
JRNL 102	Basic Journalistic Skills	3cr (2)
JRNL 105	Journalism and the Mass Media	3cr (2)
JRNL 120	Journalistic Writing	3cr (2)
Controlled Electives: Three courses from the following: JRNL 243, 326, 338, 344, 347, 375, 481 (3)		9cr

(1) Internship credits do not apply toward the 18cr minor; however, a student in the minor program may take an internship and apply the credits as free electives.
(2) The above three courses are to be taken in sequence.
(3) Minors may substitute only with departmental permission.

Department of Philosophy

Website: *www.iup.edu/philosophy*
Daniel N. Boone, Chairperson; Begres, Caraway, MacLeod, Rubenstein; and professors emeriti Bouffard, Hermann

The program in philosophy is designed to provide the student with a capacity for thinking clearly, a critical attitude, and the ability to reason theoretically.

Major

The major offers the background required for graduate work in philosophy. Those whose primary interests are in other disciplines will find philosophy courses which relate directly to their fields on a theoretical level. Both the minor and double major are especially desirable for their reflective benefits and because of the essentially interdisciplinary nature of philosophy.

Individually Designed Philosophy Minor

As a minor, philosophy has much to offer in helping individuals of various backgrounds better understand the fundamental assumptions of their disciplines. For that reason, the minor in philosophy will be individually designed to meet special career needs and personal interests. Selection of courses will be accomplished through discussions with and approval of the department advisor. Students must expect careful planning in any program approved. For further explanation and suggestions, see explanation under Philosophy Minor program requirements and consult department advisor.

Liberal Studies Offerings

The Philosophy program's Liberal Studies courses are all introductory in nature; none of them presupposes any philosophical background. The student may choose from PHIL 101, 120, 221, 222, 223.

Pre-Law Track

The Department of Philosophy participates in the University Pre-Law Track program whereby a student majors in one of several academic disciplines including philosophy and also meets the pre-law track requirements. Students interested in the philosophy major/pre-law track should consult the departmental pre-law advisor. Philosophy courses included in the pre-law track program are PHIL 101, 222, and 450.

Philosophy Honors Program

The honors program is open by departmental invitation to Philosophy and Philosophy/Pre-Law majors with a minimum 3.25 cumulative GPA and a 3.5 GPA in Philosophy courses. Students complete PHIL 480/H/, 483, and HNRC 499, which fulfills the Liberal Studies Synthesis requirement. To determine how honors track courses will be integrated into existing requirements for the Philosophy or Philosophy Pre-Law major, students should consult their advisors.

Any student satisfying the GPA requirement at the end of their third semester at IUP will be automatically advised of the requirements of the honors track and invited to participate.

Bachelor of Arts–Philosophy

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications.
Mathematics: 3cr
Philosophy: included in major
Liberal Studies Electives: 9cr, no courses with PHIL prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 30
Required Courses:
PHIL 221 Symbolic Logic I 3cr
PHIL 222 Ethics 3cr
Controlled Electives: eight PHIL courses: 24cr
PHIL 324 or 325 and one other from the following: (6cr)
- PHIL 324 Ancient Philosophy
- PHIL 325 Modern Philosophy
- PHIL 326 Phenomenology and Existentialism
- PHIL 410 Contemporary Analytic Philosophy

PHIL 420 or 421 and one other from the following: (6cr)
- PHIL 330 Philosophy of Science
- PHIL 420 Metaphysics
- PHIL 421 Theory of Knowledge
- PHIL 460 Philosophy of Language

Four other PHIL courses (12cr) (may be from the above lists) (with restrictions) (2, 3)

Free Electives: 31-37

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) No more than four 100-200 level courses may be counted toward the major. Only PHIL courses may be counted toward the major. Unless otherwise indicated in the Course Descriptions, all 300-400 level courses require either philosophy major or minor status, junior or senior standing, or permission of the instructor.
(3) No more than 9 non-classwork credits may be counted toward the major. Non-classwork credits include independent study, independent honors project, and internship in philosophy.

Bachelor of Arts–Philosophy/Pre-Law Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications.
Mathematics: 3cr
Philosophy: included in major
Liberal Studies Electives: 9cr, no courses with PHIL prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 30
Required Courses:
PHIL 101 Informal Logic, Methods of Critical Thinking 3cr
PHIL 222 Ethics 3cr
Controlled Electives: 24cr
PHIL 324 or 325, and one other from the following: (6cr)
- PHIL 324 Ancient Philosophy
- PHIL 325 Modern Philosophy
- PHIL 326 Phenomenology and Existentialism
- PHIL 410 Contemporary Analytic Philosophy

PHIL 420 or 421, and one other from the following: (6cr)
- PHIL 330 Philosophy of Science
- PHIL 420 Metaphysics
- PHIL 421 Theory of Knowledge
- PHIL 460 Philosophy of Language

Four other PHIL courses (12cr) (may be from the above lists) (with restrictions) (2, 3)

Other Requirements: Pre-Law interdisciplinary track 15-21
Seven courses, including at least one from each of six areas:
Business: ACCT 201, ACCT 202, BLAW 235
Criminology: CRIM 210, 215, 255
Economics: ECON 121, 122, 332
English: ENGL 212, 220, 310
History: HIST 320, 321, 346
Political Science: PLSC 358, 359, 361

Free Electives: 10-22

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) No more than four 100-200 level courses may be counted toward the major. Only PHIL courses may be counted toward the major. Unless otherwise indicated in the Course Descriptions, all 300-400 level courses require either philosophy major or minor status, junior or senior standing, or permission of the instructor.
(3) No more than 9 non-classwork credits may be counted toward the major. Non-classwork credits include independent study, independent honors project, and internship in philosophy.

Minor–Philosophy 15

Controlled Electives:
Five PHIL courses (with restrictions) (1, 2) 15cr

(1) No more than three 100-200 level courses may be counted toward the minor. Only PHIL courses may be counted toward the minor. Unless otherwise indicated in the Course Descriptions, all 300-400 level courses require either philosophy major or minor status, junior or senior standing, or permission of the instructor.
(2) No more than 3 non-classwork credits may be counted toward the minor. Non-classwork credits include independent study, independent honors project, and internship in philosophy.

Philosophy Honors Track 12cr

Required Courses:
HNRC 499 Honors Senior Synthesis *cr (1)
PHIL 480/H/ Honors Seminar in Philosophy 3cr
PHIL 483/H/ Honors Thesis in Philosophy 6cr

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

Department of Political Science

Website: *www.iup.edu/politicalscience*
Steven F. Jackson, Chairperson; Bahgat, Chambers, Kuffner-Hirt, Martin, McKechnie, Sitton, Torges, Wheeler; and professors emeriti Chaszar, Morris, Palmer, Platt

Political scientists focus upon political systems, including the effect of environment on the system, inputs, the decision-making agencies which render binding public policies, and system outputs. Approaches to the study of government and politics include the normative approach, in which philosophical attention centers on values by asking the question "What ought to be?" and the behavioral approach, in which an attempt is made to develop verifiable theories through scientific methods by asking the questions "How?" and "Why?"

Students majoring in political science have employment opportunities in federal, state, and local governments and with private civic groups, interest groups, and political groups. Students who go on to graduate work find appointments at higher levels and in college teaching. Students graduating in political science, as in any of the social sciences, are in demand by employers in business and industry. Students completing the Political Science Internship Program have experienced considerable success in finding employment upon graduation. The political science major is also especially suitable for the pre-law student.

Degrees offered by the Political Science Department are the Bachelor of Arts degree in Political Science, in Government and Public Service, and in Political Science Pre-Law track. An interdisciplinary major and a minor in International Studies are sponsored by the Political Science Department. The department also offers a minor in political science.

Bachelor of Arts–Political Science

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: 3cr
Social Science: PLSC 111
Liberal Studies Electives: 6cr, no courses with PLSC prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 33
Required Courses:

PLSC 101	World Politics	3cr (2)
PLSC 111	American Politics	*cr (3)

Controlled Electives: 30cr
At least one course in three of first four areas:
American Studies: PLSC 251, 300, 346, 350, 351, 353, 354, 355, 356, 357, 358, 359
Political Theory: PLSC 360, 361, 362
Public Policy and Administration: PLSC 250, 370, 371, 444
International Studies: PLSC 280, 282, 283, 285, 320, 321, 380, 382, 383, 384, 385, 386, 387, 388, 389 (4)
General Political Science: PLSC 300 (strongly recommended), PLSC 377, 480, 481, 482, 485, 493

Other Requirements: 18-27
Second major, minor, or concentration as approved by advisor with maximum of 15cr outside College of Humanities and Social Sciences unless specifically approved

Free Electives: 4-19

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) PLSC 101 satisfies non-Western requirement.
(3) Credits for PLSC 111 are counted in the Liberal Studies Social Science requirements.
(4) PLSC 280 and/or 285 recommended as prerequisite to PLSC 380 through 389.

Bachelor of Arts–Political Science/Pre-Law Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: 3cr
Social Science: PLSC 111
Liberal Studies Electives: 6cr, no courses with PLSC prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 33
Required Courses:

PLSC 101	World Politics	3cr (2)
PLSC 111	American Politics	*cr (3)

Controlled Electives: 30cr
At least one course in three of the first four areas:
American Studies: PLSC 251, 300, 346, 350, 351, 353, 354, 355, 356, 357, 358, 359
Political Theory: PLSC 360, 361, 362
Public Policy and Administration: PLSC 250, 370, 371, 444
International Studies: PLSC 280, 282, 283, 285, 320, 321, 380, 382, 383, 384, 385, 386, 387, 388, 389 (4)
General Political Science: PLSC 300 (strongly recommended), PLSC 377, 480, 481, 482, 485, 493

Other Requirements: Pre-Law interdisciplinary track 15-21
Seven courses, including at least one from each of six areas:
Business: ACCT 201, ACCT 202, BLAW 235
Criminology: CRIM 210, 215, 255
Economics: ECON 121, 122, 332
English: ENGL 212, 220, 310
History: HIST 320, 321, 346
Philosophy: PHIL 101, 222, 450

Free Electives: 9-21

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) PLSC 101 satisfies non-Western requirement.
(3) Credits for PLSC 111 are counted in the Liberal Studies Social Science requirements.
(4) PLSC 280 and/or 285 recommended as prerequisite to PLSC 380 through 389.

Bachelor of Arts–Government and Public Service

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 217
Social Science: ECON 121, PSYC 101, SOC 151
Liberal Studies Electives: 6cr, COSC 101, no courses with PLSC prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major:		39
Required Courses:		
ECON 335	Public Finance	3cr (2)
ECON 336	State and Local Finance	3cr (2)
PLSC 111	American Politics	3cr
PLSC 250	Public Policy	3cr
PLSC 251	State and Local Political Systems	3cr
PLSC 300	Research Methods in Political Science	3cr
PLSC 370	Introduction to Public Administration	3cr
PLSC 371	Issues in Public Administration	3cr
PSYC 330	Social Psychology	3cr
SOC 458	Political Sociology	3cr (3)
Controlled Electives: Three courses from the following: PLSC 350, 351, 352, 353, 354, 355, 358, 377, 444, 481, 482, 485, 493		9cr
Other Requirements:		21
One course from communications areas (English, Journalism, Communications Media) as approved by advisor		3cr
Interdisciplinary minor: Government Management, Personnel Administration, Financial Administration, Planning		18cr
Free Electives:		4-10
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in the Liberal Studies electives.
(2) Approved substitutes for ECON 335 and 336: ECON 332, 333, 361, 373.
(3) Approved substitutes for SOC 458: SOC 303, 335, 345.

Bachelor of Arts–International Studies/Political Science

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** 3cr **Social Science:** PLSC 111 **Liberal Studies Electives:** 6cr, no courses with PLSC prefix		50
College: Foreign Language Intermediate Level (1)		0-6
Major:		33
Required Courses:		
PLSC 101	World Politics	3cr
PLSC 111	American Politics	*cr (2)
Interdisciplinary sequence		15cr (3)
Cultural specialization sequence		15cr (4)
Other Requirements:		0 (5)
Free Electives:		31-37
Total Degree Requirements:		120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives. Only courses 300 level and beyond may count in the cultural specialization sequence.
(2) Credits for PLSC 111 are counted in the Liberal Studies Social Science requirements.
(3) The interdisciplinary sequence includes an introductory or comparative international course from each of five social science disciplines: anthropology, economics, geography, history, political science, and sociology. Selection depends on goal(s) of major and should be planned in consultation with the International Studies advisor.
(4) The specialization sequence focuses on one area or culture and three disciplines: economic systems, political systems, language, literature, history, geography. Currently, three specializations are offered: Latin America, the Far East, and Soviet Studies. Consult with advisor for planning course selection.
(5) Majors are strongly encouraged to take advantage of the study abroad opportunities available through IUP department programs and exchange opportunities available through the International Affairs Office.

Minor–Political Science		**15**
Required Courses:		
PLSC 101	World Politics	3cr
PLSC 111	American Politics	3cr
Controlled Electives:		
Three additional PLSC courses		9cr

Minor–International Studies		**18**
Required Courses:		
PLSC 101	World Politics	3cr
PLSC 111	American Politics	*cr (1)
Controlled Electives:		
Interdisciplinary sequence (see major)		15cr

(1) Credits counted with Liberal Studies Social Sciences.

Department of Religious Studies

Website: *www.iup.edu/religiousstudies*
Theresa S. Smith, Chairperson; Chandler, Gibson, Holm, Mlecko, Yirenkyi; and professors emeriti Chan, Schaub

The program in Religious Studies is designed to provide a balanced, nonsectarian, cross-cultural approach leading to a better understanding of the phenomenon of religion in human experience. It emphasizes an interdisciplinary approach and encourages the minor or a double major, as well as a single major in Religious Studies.

The program is valuable for those planning to teach about religions or religious studies in schools at the primary, secondary, or college level. The program also provides an excellent background for graduates planning to enter Catholic, Jewish, or Protestant seminaries. Additionally, Religious Studies is a good complement to majors in such fields as Anthropology, English, Fine Arts, History, International Studies, Music, Philosophy, Political Science, Psychology, and Sociology. Religious Studies is one significant way to integrate course studies within the university curriculum.

In addition to the 27 credits of Religious Studies courses in the major, 3 credits must be taken from a number of courses offered by other departments which complement those offered in Religious Studies. Opportunity for interdisciplinary and cross-cultural study is implicit in the study of religious themes and is required in the Religious Studies program at IUP.

Minor

The requirements for a Minor in Religious Studies are 15 credits that must be taken from the Religious Studies offerings, which include certain required courses (see below).

Religious Studies Honors Program

The honors program is open by departmental invitation to Religious Studies majors with a minimum 3.25 cumulative GPA and a 3.5 GPA in Religious Studies courses. Students complete RLST 480, 483, 493, and HNRC 499, which fulfills the Liberal Studies Synthesis requirement. To

determine how honors track courses will be integrated into existing requirements for the Religious Studies major, students should consult their advisors.

Liberal Studies Offerings

The Religious Studies program's Liberal Studies courses are all introductory in nature; none presupposes any Religious Studies background. The student may choose from RLST 100, 110, 250, and 290.

Bachelor of Arts–Religious Studies

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** 3cr **Liberal Studies Electives:** 9cr, no courses with RLST prefix	53
College: Foreign Language Intermediate Level (1)	0-6
Major:	30
Controlled Electives: (2)	
One Core: RLST 100 or 110	3cr
Western: RLST 260, 290, 380, 410, or 440	3cr
Eastern: RLST 311, 370, or 375	3cr
Indigenous: RLST 360 or 365	3cr
Five additional RLST courses (3)	15cr
One religion-related course (3)	3cr
Free Electives:	31-37
Total Degree Requirements:	120

(1) Intermediate-level Foreign Language may be included in the Liberal Studies electives.
(2) Other courses may be approved in consultation with advisor.
(3) Consult Religious Studies advisor.

Minor–Religious Studies 15

Core: RLST 100 or 110	3cr
Western: RLST 260, 290, 380, 410, or 440	3cr
Eastern: RLST 311, 370, or 375	3cr
Indigenous: RLST 360 or 365	3cr
Elective: one RLST course (1)	3cr

(1) Consult Religious Studies advisor.

Religious Studies Honors Track 12cr

Required Courses:

HNRC 499	Honors Senior Synthesis	*cr
RLST 480/H/	Seminar in Religious Studies	3cr
RLST 483/H/	Honors Thesis in Religious Studies	3cr
RLST 493	Internship in Religious Studies	3cr

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

Department of Sociology

Website: *www.iup.edu/sociology*
D. Alex Heckert, Chairperson; Ackerman, Boser, Bonach, Chang, Crane, Darling, Gondolf, Heasley, Holtz, Mabry, Nowak, Sanderson, Snyder; and professor emeritus Hunter

The Department of Sociology seeks to develop both the scientific and humanistic foundations of sociology, to educate the wider community as to the significance of sociological knowledge, to apply sociological knowledge to current social problems, and to advance the profession by promoting the welfare of individuals and society. The discipline of sociology focuses primarily on the analysis of modern industrial societies by examining their basic patterns of social organization, the various changes that occur within these patterns, and the impact of the patterns on individual thought and action. Students are prepared for employment in human service fields or for graduate study in sociology or related fields.

Students majoring in Sociology may select one of three tracks: General Sociology, Human Services, and Applied Social Research. The general track attempts to broadly educate those students who may wish to pursue graduate training in sociology and make sociology a career and profession. Because of its flexibility, it is also appropriate for students who want to pursue double majors that would include such fields as psychology or criminology. The general track gives students the broadest possible training in sociology. Students graduating with majors in general sociology often find employment in business, industry, and government.

The Human Services track in sociology seeks to help students understand the causes of many of the problems that plague modern societies, such as poverty, racial discrimination, substance abuse, and domestic violence. It is designed to provide students with the knowledge and skills necessary to become practitioners in various human services areas (e.g., juvenile delinquency, medical sociology, gerontology, and interpersonal dynamics and family sociology).

The Applied Social Research track emphasizes the development of research and assessment skills in students. Such skills are important in carrying out program assessments, needs assessments, program development, and other activities that focus on gathering, analyzing, and interpreting data important for policymakers.

The department also prepares teachers for secondary school social studies with a concentration in sociology. The program leads to the degree Bachelor of Science in Education. With its emphasis on patterns of social organization in modern industrialized societies, sociology provides a solid foundation for teaching social science at the secondary level. Minors are available in sociology and in applied social research.

Sociology Honors Program

The honors program is open by departmental permission to declared Sociology majors with a minimum 3.25 cumulative GPA and a 3.5 GPA in Sociology courses.

Students complete CHSS 489 (a multidisciplinary colloquium emphasizing problem-solving, discussion, reading, and writing on a topic or theme); SOC 483; and HNRC 499, which fulfills the Liberal Studies Synthesis requirement. Students must earn at least a C in each course completed for the track. To determine how honors track courses will be integrated into existing requirements for the Sociology major, students should consult their advisors.

Students may be invited to apply or may nominate themselves. In either case, to be considered for the Sociology honors track, students must have earned 15 credits in Sociology, including SOC 320. Sociology majors who have met the eligibility criteria must submit an application to the chairperson of the Department of Sociology after they have earned at least 56 credits.

Bachelor of Arts–Sociology/General Sociology Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 217 recommended **Social Science:** SOC 151 **Liberal Studies Electives:** 9cr, no courses with SOC prefix	53

College: 0-6
Foreign Language Intermediate Level (1)

Major: 33
Required Courses:

SOC 151	Principles of Sociology	*cr (2)
SOC 320	Sociological Theory	3cr
SOC 460	Social Research Methods I	3cr
SOC 461	Social Research Methods II	3cr

One of the following: 3cr

SOC 361	Social Stratification
SOC 362	Racial and Ethnic Minorities
SOC 363	Sociology of Gender

At least one different course from four of the following substantive areas: 12cr

Social Inequality and Social Change:
SOC 269, 303, 337, 361, 362, 363, 448, 452, 458
Deviance and Social Problems:
SOC 231, 269, 333, 335, 427, 428, 452
Individual and Society: SOC 251, 269, 345, 357, 452
Social Organization and Institutions: SOC 286, 336, 340, 341, 342, 348, 352, 421, 458
Comparative Sociology: SOC 233, 271, 272, 273, 286, 303, 314, 337, 342
Free Sociology Electives (3) 9cr

Free Electives: 28-34

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) Credits counted in Liberal Studies, not in the major.
(3) Internship in Sociology (SOC 493) will not count as part of the required Free Sociology electives and must count as credits beyond the 30cr required for the major (out of Free Electives). The student must write a one-page justification explaining the selection of his/her 9cr of Free Sociology electives as it relates to the internship experience.

Bachelor of Arts–Sociology/Human Services Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: MATH 217 recommended
Social Science: SOC 151 required, ANTH 110 and PSYC 101 recommended
Liberal Studies Electives: 9cr, no courses with SOC prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 45
Required Courses:

SOC 151	Principles of Sociology	*cr (2)
SOC 301	Foundations of Sociological Practice	3cr
SOC 302	Clinical Sociological Practice	3cr
SOC 303	Social and Cultural Change	3cr
SOC 320	Sociological Theory	3cr
SOC 460	Social Research Methods I	3cr
SOC 461	Social Research Methods II	3cr
SOC 493	Internship in Sociology (3)	12cr

Controlled Electives: One substantive area (4) 15cr (5)
Medical Sociology: ANTH 444 or SOC 342, and four courses from the following: ANTH 222, 444, BIOL 151 or 155, ECON 335, FDNT 212, PSYC 321, 378, RGPL 350, SOC 231, 336, 342, 357, 448, 452, 457
Gerontology: PSYC 378 or SOC 357, and four courses from the following: ANTH 444, ECON 335, PSYC 312, 378, RGPL 350, SOC 231, 251, 336, 342, 352, 357, 448, 457
Juvenile Delinquency: SOC 333, and four courses from the following: : CRIM 102, 225, 235, 394, GEOG 432, HIST 374, SOC 231, 269, 333, 335, 336, 345, 361, 362, SOC 428, 448, 457
Interpersonal and Family Sociology: SOC 336 or 345, and four courses from the following: CDFR 218, 224, PSYC 311, 321, 330, SOC 251, 269, 335, 336, 345, SOC 361, 363, 427, 428, 448, 452, 457
Labor and Industry: SOC 340 or 348, and four courses from the following: ECON 330, 350, 371, 372, 373, HIST 373, ILR 426, 480, PSYC 390, SOC 231, 340, 348, 361, 448, SOC 457, 458
Community Development: SOC 231 or 448, and four courses from the following: ANTH/SOC 271, 272, 314, ECON 336, 383, FDNT 402, GEOG 331, 332, PLSC 251, RGPL 350, SOC 269, 333, 336, 341, 363, 448, 457

Free Electives: 16-22

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.
(2) Credits counted in Liberal Studies, not in the major.
(3) SOC 301 and 302 must be taken before SOC 493. Generally, SOC 493 is taken in the summer before the senior year.
(4) Students may create their own substantive area with the approval of the department chairperson.
(5) At least three courses in any substantive area must be SOC courses.

Bachelor of Arts–Sociology/Applied Social Research Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: MATH 217
Social Science: SOC 151 required, ANTH 110 recommended
Liberal Studies Electives: 9cr, COSC 101, no courses with SOC prefix

College: 0-6
Foreign Language Intermediate Level (1)

Major: 45
Required Courses:

SOC 151	Principles of Sociology	*cr (2)
SOC 320	Sociological Theory	3cr
SOC 456	Field Research Methods	3cr
SOC 457	Computer Use in Sociology	3cr
SOC 458	Political Sociology	3cr
SOC 460	Social Research Methods I	3cr
SOC 461	Social Research Methods II	3cr
SOC 493	Internship in Sociology (3)	12cr

Controlled Electives: One substantive area (4) 15cr (5)
Medical Sociology: ANTH 444 or SOC 342, and four courses from the following: ANTH 222, 444, BIOL 151 or 155, ECON 335, FDNT 212, PSYC 321, 378, RGPL 350, SOC 231, 335, 336, 342, 357, 448, 452
Gerontology: PSYC 378 or SOC 357, and four courses from the following: ANTH 444, ECON 335, 360, PSYC 312, 378, RGPL 350, SOC 231, 251, 336, 342, 352, 357, 448
Juvenile Delinquency: SOC 333 and four courses from the following: CRIM 102, 225, 235, 394, GEOG 432, HIST 374, SOC 231, 269, 335, 336, 345, 361, 263, 428

Interpersonal and Family Sociology: SOC 336 or 345, and four courses from the following: CDFR 218, 224, PSYC 311, 321, 330, SOC 251, 269, 335, 336, 345, SOC 361, 363, 427, 428, 448, 452

Labor and Industry: SOC 340 or 348, and four courses from the following: ECON 330, 350, 371, 372, 373, HIST 373, ILR 426, 480, PSYC 390, SOC 231, 303, 340, 348, 361, SOC 448, 458

Community Development: SOC 231 or 448, and four courses from the following: ANTH/SOC 271, 272, 314, ECON 336, 383, FDNT 402, GEOG 331, 332, PLSC 251, RGPL 350, SOC 269, 333, 336, 341, 363, 448

Free Electives: 16-22

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies elective.
(2) Credits counted in Liberal Studies, not in the major.
(3) SOC 380, 456, and 457 must be taken before taking SOC 493. Generally, SOC 493 is taken in the summer before the senior year.
(4) Students may create their own substantive area with the approval of the department chairperson.
(5) At least three courses in any substantive area must be SOC courses.

Bachelor of Science in Education–Social Science Education/ Sociology Concentration (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Humanities: History is fulfilled by courses in the major
Mathematics: MATH 217 (recommended)
Natural Science: BIOL 103-104 (recommended)
Social Science: ECON 121, PSYC 101, SOC 151
Liberal Studies Electives: 6cr, PSYC 310 or 330, no courses with SOC prefix

College: 32

3 additional cr of MATH 100-level or above (in addition to Liberal Studies Mathematics) (1)		3cr
Preprofessional Education Sequence:		
COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 455	Teaching of Social Studies in Secondary Schools	3cr

Major: (2) 21

Required Sociology Courses:		
SOC 231	Contemporary Social Problems	3cr
SOC 320	Sociological Theory	3cr
SOC 336	Sociology of the Family	3cr
SOC 380	Social Research Methods	3cr
Controlled Electives:		
One course from the following on Social Equity: SOC 361, 362, 363		3cr
Select two additional courses: one each from any *two* of the following three categories:		6cr

Deviance and Social Problems:
SOC 269, 333, 335, 357, 427, 428, 452

Individual in Society: SOC 251, 345

Social Organizations and Institutions: SOC 286, 303, 337, 340, SOC 341, 342, 348, 352, 361, 362, 363, 421, 448, 458

History Distribution Requirements:		9
HIST 202	Western Civilization Since 1600	3cr
HIST 204	United States History to 1877	3cr
HIST 205	United States History Since 1877	3cr
Social Science Distribution Requirements:		9
ANTH 211	Cultural Anthropology	3cr
GEOG 230	Cultural Geography	3cr
PLSC 280 or PLSC 285	Comparative Government I: Western Political Systems *or* Comparative Government II: Non-Western Systems	3cr
Free Elective:		1
Total Degree Requirements:		120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.
(1) Students are required to take an additional 3cr of MATH beyond the Liberal Studies requirements for a total of 6cr, all of which must be 100 level or above.
(2) Courses counted toward Liberal Studies credits do not receive duplicate credits in the major.

Minor–Sociology 15

Required Course:		
SOC 151	Principles of Sociology	3cr
Controlled Electives:		
One course from list: SOC 231, 320, 380		3cr
Three additional courses in Sociology		9cr

Minor–Applied Social Research 15-21

Required Courses:		
SOC 380	Social Research Methods	3cr
SOC 456	Field Research Methods	3cr
SOC 457	Computer Use in Sociology	3cr
SOC 458	Political Sociology	3cr
Controlled Electives:		
Any research course in College of Humanities and Social Sciences, as approved by department chair		3cr
Optional internship: ANTH 493 or SOC 493		6cr

Sociology Honors Track 12cr

Prerequisites: Declared major in Sociology and completion of 56cr, SOC 320, and 12 additional cr in Sociology

Required Courses:		
CHSS 489/H/	Honors Colloquium	3cr
HNRC 499	Honors Senior Synthesis	*cr (1)
SOC 483/H/	Honors Thesis in Sociology	6cr

(1) Credits for HNRC 499 are counted in the Liberal Studies Synthesis requirement.

Department of Spanish

Website: *www.iup.edu/spanish*

R. Roger Smith, Chairperson; Barton, Broad, Carranza, Delbrugge, Drescher, Glisan, Hernández, Jurewicz, McDaniel, Rodríguez, Ryan-Sams, Smith-Sherwood, Thornton, Young; and professor emeritus Mendizábal

The Department of Spanish offers a varied curriculum designed to provide not only basic language instruction in Spanish, but also the more advanced competencies needed by language specialists and students hoping to take advantage of an international study experience. For the undergraduate Spanish major, the department has three degree programs: the B.S. in Education, the B.A. degree in Spanish, and the B.A. degree in Spanish for International Trade. The latter degree program provides solid undergraduate degree training preparatory to an M.B.A. in International Management.

Students majoring in Spanish will acquire proficiency in all phases of the language and enter more deeply into the history, culture, and literature of Spanish-speaking countries. Spanish majors generally find employment in government work, librarianship, journalism, foreign trade, airlines, tourism, business, criminology, and teaching. Students choosing careers as secondary school teachers will find the close supervision and advanced methodology offered by the department a distinct asset.

College Language Requirements

Students in the College of Natural Sciences and Mathematics and College of Humanities and Social Sciences, who must pass an intermediate-level language course requirement for graduation, may choose any one of the four languages offered by the Foreign Language departments: French, German, Italian, and Spanish. Those choosing the Spanish option will fulfill the requirement by successfully completing SPAN 201 or 211*. The student with no previous foreign language study will take SPAN 101-102 or 111* as a prerequisite; the credits will not be applicable to any college or department requirements (except for students in Hospitality Management who may fulfill their 3-9-credit language requirement with SPAN 111* or 211* or 131-132 or with two 4-credit courses) but may be counted as general electives in the total required for graduation. Students in the other colleges may choose to take one of the languages offered (at the intermediate level) in fulfilling the requirements of Liberal Studies electives.

*Course is currently inactive.

Students with previous Spanish study in high school will be placed into the appropriate course levels by means of a written departmental exam, administered prior to the beginning of the semester. Students who have taken an OPI (ACTFL Oral Proficiency Interview) in addition to the departmental placement exam, and placed at the intermediate-mid level, may receive 4 credits for either SPAN 102 or 201 depending on their placement on the written exam. In addition, as deemed necessary, especially in the case of native or heritage speakers, students' writing and speaking proficiency will be assessed by one or more faculty members in the Department of Spanish. Each student's individual requirements and the judgment of the classroom instructors will also be considered in placement. Native or heritage speakers are not eligible for credit on the basis of an OPI. No student will be allowed to register for or take a D/F repeat in SPAN 101, 102, or 201 when credit has already been received for a higher numbered course.

Spanish for Elementary Education

A student in Elementary Education may elect a concentration of 19 credits of Spanish, consisting of the following:

SPAN 201	or equivalent	4cr
SPAN 220	Intermediate Spanish Conversation and Grammar	3cr
SPAN 230	Intermediate Spanish Composition	3cr
SPAN 260	Introduction to Hispanic Literature	3cr
SPAN 350	Advanced Spanish Conversation	3cr
SPAN 404	Advanced Spanish Grammar	3cr

Elementary Education students wishing to prepare to teach in elementary programs where content teaching in Spanish is the objective should enroll in the Foreign Languages and International Studies for Elementary Teaching (FLISET) program described under the Department of Professional Studies in Education.

Spanish Honors Program

The honors program is open by departmental permission to Spanish and Secondary Spanish Education majors with a minimum 3.25 cumulative GPA and a 3.25 GPA in Spanish courses.

To apply, students must submit two letters of reference from Spanish Department faculty members and a two-page self-statement describing the student's academic and career goals.

Students complete two semesters of SPAN 483/H/, CHSS 489 (a multidisciplinary colloquium emphasizing problem-solving, discussion, reading, and writing on a topic or theme), and one course from SPAN 410-431. Students must earn at least a B in each course completed for the track. To determine how honors track courses will be integrated into existing requirements for the Spanish or Secondary Spanish Education major, students should consult their advisors.

Study Abroad and Internships

Study Abroad: The university has established study-abroad centers in Spain, Mexico, and Costa Rica. The program in Valladolid, Spain, is a second-semester-only program, whereas the ones in Mexico and Costa Rica are summer programs. All majors are required to participate in study abroad; nonmajors are also accepted into these programs. The 18 credits in Spain, 7 credits in Mexico, or 4 credits in Costa Rica are applicable, all or in part, to a major or a minor in Spanish. Students interested in more information should contact the Department of Spanish.

Internships: Internships in Spain, Mexico, and Costa Rica are available through the department. All internships take place during the summer and vary from six weeks to two months in duration. Internship is a credit-bearing course, SPAN 493, and all interns are enrolled in the first session of summer school. Noncredit internships cannot be considered. Students enrolled in the Spanish for International Trade program are strongly urged to do an internship in order to gain credibility in the field of international business. Internships are available in banking, government, social work, communications, education, marketing, and many other fields. Arranging an internship abroad takes considerable long-range planning, and anyone interested should contact the Department of Spanish at least three months in advance.

Bachelor of Arts–Spanish

Liberal Studies: As outlined in the Liberal Studies section with the following specifications:		53
Mathematics: 3cr		
Liberal Studies Electives: 9cr, no courses with SPAN prefix		
College:		
Foreign Language (included in major)		0
Major:		37
Study Abroad (1)		
Required Courses:		
SPAN 201	or equivalent	4cr
SPAN 220	Intermediate Spanish Conversation and Grammar	3cr
SPAN 230	Intermediate Spanish Composition	3cr
SPAN 260	Introduction to Hispanic Literature	3cr
SPAN 340	Hispanic Civilization Through the Nineteenth Century	3cr
SPAN 342/ SPAN 344	Twentieth-Century Spanish Civilization and Culture/Twentieth-Century Spanish-American Civilization and Culture	3cr

SPAN 350	Advanced Spanish Conversation	3cr
SPAN 362/ SPAN 364	Survey of Peninsular Literature/ Survey of Spanish American Literature	3cr
SPAN 404	Advanced Spanish Grammar	3cr

Controlled Electives:
At least two literature courses from those numbered 410-481 6cr
Any other 3cr in SPAN courses 342 or above except SPAN 390 3cr

Free Electives: 30

Total Degree Requirements: 120

(1) Students in the B.A.–Spanish major must successfully complete a program of language study in a Spanish-speaking country. This program must, as a minimum, last four weeks and carry 3 or more cr extending beyond the intermediate level. Students may fulfill this requirement by participating in any of IUP's study abroad programs in Spain, Mexico, or Costa Rica, or by transferring credits from another accredited program. Students wishing to fulfill this requirement through a non-IUP program should obtain prior approval from the department. Based on demonstration of adequate oral proficiency and significant cross-cultural experience, students may be exempted from this requirement with the approval of the advisor.

Bachelor of Arts–Spanish for International Trade

Liberal Studies: As outlined in Liberal Studies section with following specifications: 52
Mathematics: MATH 115
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 6cr, BTED/COSC/IFMG 101, MATH 214, no course with SPAN prefix

College: 0
Foreign Language (included in major)

Major: 30
Study Abroad (1)
Required Courses:

SPAN 222	Intermediate Spanish Conversation-Business	3cr
SPAN 230	Intermediate Spanish Composition	3cr
SPAN 260	Introduction to Hispanic Literature	3cr
SPAN 340	Hispanic Civilization Through the Nineteenth Century	3cr
SPAN 344	Twentieth-Century Spanish-American Civilization and Culture	3cr
SPAN 350	Advanced Spanish Conversation	3cr
SPAN 354	Commercial Spanish	3cr
SPAN 402	Translation and Interpretation	3cr
SPAN 404	Advanced Spanish Grammar	3cr

Controlled Electives: Any 3 Spanish credits in courses 362 or above except SPAN 390 3cr

Other Requirements: Business Sequence 36

ACCT 201	Accounting Principles I	3cr
ACCT 202	Accounting Principles II	3cr
BLAW 235	Legal Environment of Business	3cr
BTST 321	Business and Interpersonal Communications	3cr
ECON 122	Principles of Microeconomics	3cr
FIN 310	Fundamentals of Finance	3cr
IFMG 300	Information Systems: Theory and Practice	3cr
MGMT 311	Human Behavior in Organizations	3cr
MGMT 330	Production and Operations Management	3cr
MGMT 495	Business Policy	3cr
MKTG 320	Principles of Marketing	3cr
QBUS 215	Business Statistics	3cr

Free Electives: 2

Total Degree Requirements: 120

(1) Students in the B.A.–Spanish for International Trade major must successfully complete a program of language study in a Spanish-speaking country. This program must, as a minimum, last four weeks and carry 3 or more cr extending beyond the intermediate level. Students may fulfill this requirement by participating in any of IUP's study abroad programs in Spain, Mexico, or Costa Rica or by transferring credits from another accredited program. Students wishing to fulfill this requirement through a non-IUP program should obtain prior approval from the department. Based on demonstration of adequate oral proficiency and significant cross-cultural experience, students may be exempted from this requirement with the approval of the advisor.

B.S.Ed.–Secondary Spanish Education

The following additional requirements for Spanish Education in the Admission to Teacher Education and Certification Process are required. Please see the remainder of the requirements for all B.S. Education majors in the Admission to Teacher Education and Certification Process in the College of Education and Educational Technology section of this catalog.

Mid-Program Review: Progress is reviewed in the semester in which students complete EDUC 242 with a grade of C or better and have at least 60 credits. At that point, students must meet the following departmental requirements.

1. Successfully complete an English essay. Students read a recent article dealing with innovations in teaching and are asked to respond to certain questions in light of their coursework and teaching experiences at IUP.
2. Attain an intermediate-mid or higher level on an individual Oral Proficiency Interview in Spanish (ACTFL-ETS).
3. Satisfactorily complete an interview in English with the Spanish Education Coordinator, a second faculty member from the Department of Spanish, and one cooperating teacher, in order to assess ability to interact with others on a professional level.
4. Hold at least a 3.0 GPA in Spanish.

Admission to Student Teaching:

1. Attain an advanced-low rating or higher on an individual Oral Proficiency Interview in Spanish (ACTFL-ETS).
2. Hold at least a 3.0 GPA in Spanish.
3. Earn a grade of C or higher in SPAN 353 and 404.

Bachelor of Science in Education–Secondary Spanish Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 53
Mathematics: 3cr
Social Science: ANTH 110, PSYC 101
Liberal Studies Electives: 9cr, MATH course (1), no courses with SPAN prefix

College: 29
Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr

Professional Education Sequence:

EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-Student Teaching Clinical Experience I	1cr
EDUC 342	Pre-Student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 453	Teaching of Foreign Languages in the Secondary School	3cr

Major: 37

Study Abroad (2)

Required Courses:

SPAN 201	Intermediate Spanish or equivalent	4cr
SPAN 220	Intermediate Spanish Conversation and Grammar	3cr
SPAN 230	Intermediate Spanish Composition	3cr
SPAN 260	Introduction to Hispanic Literature	3cr
SPAN 340	Hispanic Civilization Through the Nineteenth Century	3cr
SPAN 342/ SPAN 344	Twentieth-Century Spanish Civilization and Culture/Twentieth-Century Spanish-American Civilization and Culture	3cr
SPAN 350	Advanced Spanish Conversation	3cr
SPAN 353	Spanish Phonetics and Phonemics	3cr
SPAN 390	Teaching of Elementary Content Through the Spanish Language	3cr
SPAN 404	Advanced Spanish Grammar	3cr

Controlled Electives:

Any other 3cr from SPAN 300 or above	3cr
SPAN 362, 364, or a 400-level literature course	3cr

Free Electives: 1

Total Degree Requirements: 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) Students who do not wish to select a MATH course under the Liberal Studies Electives must still take a second MATH course in order to fulfill the state requirements.

(2) Students in the B.S.Ed.–Secondary Spanish major must successfully complete a program of language study in a Spanish-speaking country. This program must, as a minimum, last four weeks and carry 3 or more cr extending beyond the intermediate level. Students may fulfill this requirement by participating in any of IUP's study abroad programs in Spain, Mexico, or Costa Rica or by transferring credits from another accredited program. Students wishing to fulfill this requirement through a non-IUP program should obtain prior approval from the department. Based on demonstration of adequate oral proficiency and significant cross-cultural experience, students may be exempted from this requirement with the approval of the advisor.

Minor–Spanish **22**

Required Courses:

SPAN 201	or equivalent	4cr
SPAN 220	Intermediate Spanish Conversation and Grammar	3cr
SPAN 230	Intermediate Spanish Composition	3cr
SPAN 260	Introduction to Hispanic Literature	3cr
SPAN 342/ SPAN 344	Twentieth-Century Spanish Civilization and Culture/Twentieth-Century Spanish-American Civilization and Culture	3cr
SPAN 350	Advanced Spanish Conversation	3cr

Controlled Electives:

One course from the following:	
SPAN 340, 342, 344, 353, 362, 364	3cr

Spanish Honors Track **12cr**

Required Courses:

CHSS 489/H/	Honors Colloquium	3cr
SPAN 410-431	One course in Spanish Literature	3cr
SPAN 483/H/	Honors Thesis in Spanish	6cr

The College of Natural Sciences and Mathematics

John S. Eck, Dean
Aleksandra B. Kaniasty, Assistant Dean
Gerald M. Buriok, Dean's Associate
Website: *www.iup.edu/natsciandmath*

One of the characteristics of the twenty-first century is the marked change in the relation of citizens to their environment. Space probes, orbiting satellites, and productive research on the structure and synthesis of living matter have brought to the forefront for reexamination such time-honored queries as, "What is the nature of the universe?" or "Can people control their natural environment?" or "How did life begin?" Scientifically found answers to these and other questions, coupled with proper application of this knowledge for humankind's betterment, must be a significant part of the goal of educated people everywhere.

The objectives of the college are to acquaint the student with the kinds of problems which lend themselves to possible solutions through the use of science; to introduce different scientific techniques through significant illustrative experiences; to give a sense of perspective in the development of science; and to develop an understanding of the basic community of all scientific disciplines.

Degrees Offered

- Applied Mathematics
- Applied Physics (Nanomanufacturing Technology track available)
- Biochemistry
- Biology (Tracks available: Cell and Molecular, Honors, Pre-Medical, Pre-Veterinarian)
- Biology Education
- Chemistry
- Chemistry Education
- Computer Science (Tracks available: Applied, Information Assurance, Languages and Systems)
- Earth and Space Science Education
- Economics/Mathematics
- Electro-Optics (Associate in Applied Science and Associate in Science)
- Environmental Health Science
- General Science Education
- Geology (Tracks available: Geology, Environmental)
- Mathematics
- Mathematics Education
- Natural Science
- Physics
- Physics Education
- Psychology

Degrees

The departments of Biology, Chemistry, Computer Science, and Physics offer work leading to either a Bachelor of Science or a Bachelor of Arts degree, depending upon the specific course program pursued. The Bachelor of Science degree is awarded for successful work in the departments of Geoscience, Mathematics, and Natural Science. The Bachelor of Arts degree is awarded by the Department of Psychology. An Associate of Applied Science and an Associate in Science are awarded in Electro-Optics.

Several departments in the college sponsor Master of Arts or Master of Science degrees. The Department of Psychology offers the Doctor of Clinical Psychology degree. Information on these programs can be obtained from the School of Graduate Studies and Research.

Degree Requirements

In addition to the university's Liberal Studies requirements, all students seeking a baccalaureate degree in the College of Natural Sciences and Mathematics must complete the requirements for a major as established by the department through which they wish to specialize. Statements of these requirements and those for minoring in a specific field appear in the department sections that follow. A double major or minor may encompass a discipline outside as well as within the college but should be selected only with advisor approval. As a general principle, there is considerable latitude in course choice for Natural Sciences and Mathematics majors; for specifically required courses, substitution in any program must have the written approval of the student's department chairperson or the college dean.

The Foreign Language Requirement

Unless otherwise indicated, each department adheres to the following foreign language requirement.

A candidate for a Bachelor of Arts or Bachelor of Science degree must demonstrate a proficiency in a foreign language equivalent to that attained upon completion of two years of college instruction in that language. This requirement may be met by one of the following:

a. successful completion of the intermediate level in a specific language
b. successful completion of an exemption or credit examination

Any foreign student, registered as such at IUP, whose acquired native language is other than English and who demonstrates an acceptable proficiency in English, is exempt from the foreign language requirement for a Natural Sciences and Mathematics degree if the department he/she is majoring in does not require a specific language not thus covered.

Preprofessional Programs

The college offers programs for the preparation of students for acceptance by a professional school: pre-medical (including osteopathic medicine) and pre-veterinary medicine. In addition, the college offers a major in the Natural Sciences for those students whose goal is dentistry, pharmacy or pharmacology, optometry, podiatry, chiropractic medicine, or physical therapy. All programs are so designed that, should work at a professional school not ensue, the student may earn an IUP baccalaureate degree, provided he/she has been faithful to faculty advisement.

The preprofessional health programs in the college presuppose that the student has an excellent background in the high school sciences and mathematics and will prove to be an excellent college student. Students should identify their proposed field of study upon admission to IUP.

Internship Programs

Several departments in the College of Natural Sciences and Mathematics have established extensive internship programs under which students engage in an off-campus supervised work experience for credit. For more information about specific internship programs, students should consult with the chairperson of the department in which the student is majoring. Students eligible for internships may receive federal or state funding.

Cooperative Programs

IUP has been fortunate to enter into cooperative agreements with a number of outstanding institutions to provide significant career opportunities to our students. These formal agreements provide for accelerated graduate or professional degree programs or carefully planned and coordinated undergraduate programming with the cooperating institution. Programs are intended to assure acceptance of properly qualified students by the cooperating professional schools. Additional information concerning the specific programs can be found under the appropriate academic department in this catalog.

Chiropractic (See Natural Science): The New York Chiropractic College and Logan Chiropractic College programs are designed to accelerate the professional training of IUP students in the field of chiropractic medicine.

Dentistry (see Natural Science). The Temple University School of Dentistry program is designed to accelerate the professional training of IUP students in the field of dentistry.

Engineering–Drexel University (See Department of Physics): The program with Drexel University combines the opportunity for two years of study at IUP with the remaining three years of study as part of the Drexel plan of cooperative education. Students completing this program will receive a bachelor's degree in engineering from Drexel University.

Engineering–University of Pittsburgh (See Natural Science)

Family Medicine (See Department of Biology): The program with Jefferson Medical College of Thomas Jefferson University increases the opportunities for IUP students to be admitted to Jefferson Medical College in the Family Medicine Program. Contact Dr. Allan Andrew for information.

Forestry and Environmental Studies (See Department of Biology): The program with Duke University is designed to coordinate the education of students from IUP with the graduate programs in forestry and environmental management offered at Duke University in Durham, North Carolina.

Lake Erie College of Osteopathic Medicine (See Department of Biology). Lake Erie College of Osteopathic Medicine and IUP have a cooperative "3+4" program. Students will be awarded a Bachelor of Science degree in Biology from IUP upon successful completion of the first-year curriculum at Lake Erie College of Osteopathic Medicine and of the undergraduate requirements at IUP. Contact Dr. Allan Andrew for specific information.

Marine Science Consortium: College majors may be interested in the prorams available through the Marine Science Consortium. The Marine Science Consortium was established in 1968 for the purpose of promoting teaching and research in the marine sciences. Although no separate major in the Marine Sciences exists, elective courses may be taken and credited toward undergraduate curricula in Biology, Geology, Geography, and Earth Science. The Marine Science Consortium offers five three-week sessions during the summer at the NASA -Wallops Island Station, Va. Normally, several research cruises are offered each summer. Students must register for credit and pay credit fees to a participating institution. Room and board fees are paid to the consortium. Applications for all summer sessions must be submitted to the institutional director by April 1. Students must be accepted by the consortium before registering at a participating institution. See section on Marine Science Consortium for a listing of courses. Although IUP is not currently a member institution, students may register for courses offered at the consortium through any participating institution. (See *www.msconsortium.org/Welcome.htm* for a complete listing.)

Optometry (See Natural Science): The Pennsylvania College of Optometry program accelerates the professional training of IUP students in the field of optometry.

Pharmacy (see Natural Science). The Shenandoah University School of Pharmacy or Lake Erie College of Osteopathic Medicine School of Pharmacy programs are designed to accelerate the professional training of IUP students in the field of pharmacy.

Physical Therapy (see Natural Science). The Gannon University School of Physical Therapy program is designed to enhance the professional training of IUP students in the field of physical therapy.

Podiatry (See Natural Science): The Temple University School of Podiatric Medicine program accelerates the professional training of IUP students in the field of podiatry.

Primary Care Partnership: The program with The Pennsylvania State University College of Medicine enables the college to identify students with primary care potential and provide these students with the opportunity to interact with primary care faculty at the Pennsylvania State University College of Medicine. Contact Dr. Allan Andrew for specific information.

Primary Care Scholars Program: The Philadelphia College of Osteopathic Medicine (PCOM) has established the Primary Care Scholars Program with six State System of Higher Education universities. The program will enable students who have demonstrated both academic excellence and a commitment to the practice of primary care in Pennsylvania to gain early admission to PCOM. Contact Dr. Allan Andrew for specific information.

Department of Biology

Website: *www.iup.edu/biology*

Carl S. Luciano, Chairperson; Andrew, Avery, Ayebo, Bharathan, Brenneman, Browe, Butler, Ciskowski, Gendron, Hinrichsen, Hulse, Jack, Kesner, Lord, Newell, Peard, Peterson, Pistole, Simmons, Winstead; and professors emeriti Gallati, Liegey, Moore, Schrock

Degrees offered by the Department of Biology are the Bachelor of Science degree in Biology, the Bachelor of Arts degree in Biology, the Bachelor of Science degree in Environmental Health Science, and the Bachelor of Science in Education with a Biology certification. The first three degree programs are under the College of Natural Sciences and Mathematics, and the fourth is under the College of Education and Educational Technology. The department also offers a Biology minor.

B.S.–Biology

In addition to the Bachelor of Science degree with no specialization, the departmen also offers specialized Bachelor of Science tracks in Cell and Molecular Biology, Pre-Veterinary, Pre-Medical, and Honors Biology.

The Bachelor of Science degree in Biology with no specialization is designed to provide maximum depth in the sciences and mathematics combined with flexibility in the choice of ancillary science courses. This program allows the student (in consultation with the advisor) to select a suite of ancillary science and mathematics courses that is most appropriate to the student's specific interests within the field of biology. With proper selections from among ancillary science courses, a student could minor in any of the following: Biochemistry, Chemistry, Geoscience, or Applied Statistics. Furthermore, with proper selection of free electives, a student could minor in either Mathematics or Physics.

B.A.–Biology

The Bachelor of Arts degree in Biology is designed for students who wish to combine a primary academic interest in Biology with a secondary interest in a complementary field. Through the choice of complementary field and free electives, this curriculum allows the greatest overall flexibility in a student's program of study. The complementary field also allows pursuit of a minor or a double major in the secondary area of interest. The primary Biology major combined with a double major or a minor in the complementary field can make an attractive educational package for the student and for potential employers. Examples of complementary fields that might enhance a student's competitiveness in the job market include Anthropology, Business Administration, Computer Science, Criminology (for forensic science), English (for technical writing), Foreign Language, Geoscience, Marketing, or Psychology.

B.S.–Environmental Health Science

The Environmental Health Science program provides a strong foundation in the natural sciences and mathematics, on which an understanding of environmental health issues is built. The program focuses on environmental factors that can adversely impact human health. Such factors include ambient and indoor air pollutants, food and water contaminants, solid and hazardous wastes, vector-borne and communicable diseases, housing and shelter hazards, and ecological and global stressors. The curriculum emphasizes analytical and problem-solving skills to identify, evaluate, and manage these environmental factors. Graduates are prepared for employment as environmental health specialists and practitioners in industry, government, and academia and for entry into graduate school programs in environmental and public health.

B.S.–Biology/Cell and Molecular Biology Track

Students electing the Bachelor of Science degree with an emphasis in Cell and Molecular Biology will take the core Biology courses and, in addition, a collection of upper-division courses that focus collectively on important aspects of modern cell and molecular biology. This track will prepare students for employment in technical positions or for graduate studies in cell biology, molecular biology, biotechnology, or related biomedical disciplines.

B.S. in Education–Secondary Biology

The Department of Biology, in conjunction with the College of Education and Educational Technology, provides a program leading to the Bachelor of Science in Education with certification to teach biology. The program is committed to preparing teachers who possess a strong foundation in biology, a broad background in associated sciences, and an extensive preparation in pedagogy.

Biology Honors Program

The honors program is open by departmental permission to all majors within the Department of Biology. Students who, by end of the first semester of their sophomore year, have a minimum 3.25 cumulative GPA will be invited to apply for the program. The application will include a transcript and a personal statement outlining the student's academic plan, career goals, and why she or he wants to be considered for the honors program. A department honors committee (makeup to be determined by the department) will select a maximum of twelve students per year for the program.

Students accepted into the program will take BIOL 484 during the first semester of their junior year, two semesters of BIOL 483, and one 500/600 level biology course. The honors thesis will be based on research performed under the supervision of a department professor who specializes in the student's area of interest and must be approved by a thesis committee made up of the faculty member directing the student and two others, one of whom may come from outside the Department of Biology.

Students interested in the Biology Honors Program should discuss this opportunity with their advisors as early as possible so that they have achieved the necessary GPA and are prepared to make application for the program in the spring of their sophomore year. This program, though designed for all qualified students within the Department of Biology, should be of particular value to students intending to seek admission to graduate or professional schools. Honors coursework is designated on university transcripts. Students completing the departmental honors program are recognized at departmental commencement ceremonies.

Minor in Environmental Health Science

The minor in Environmental Health Science provides a survey of the technical areas in environmental health and protection, with an introduction to epidemiology and toxicology that are fundamental to the field. The minor consists of 20 credits in BIOL and ENVH courses. Three additional non-BIOL and non-ENVH courses in the Natural Sciences and Mathematics are needed as prerequisites. This minor is particularly well suited for students interested in human and ecological health issues who are majoring in Biohemistry, Biology, Chemistry, Geology, Natural Science, or Safety Sciences.

Foreign Language Requirement

Some Biology majors must complete intermediate level or two semesters of foreign language starting at the highest level recommended by the freshman Preregistration Placement Test in that language (may be included in Liberal Studies electives). This requirement can also be met by demonstrating proficiency in a foreign language equivalent to the intermediate level. See individual tracks and programs for specific requirements.

Cooperative Programs

The Biology Department cooperates in programs with Jefferson Medical College, Lake Erie College of Osteopathic Medicine, Duke University School of Forestry and Environmental Studies, and Pymatuning Laboratory of Ecology.

Duke Cooperative College Program in Forestry and Environmental Studies

The Cooperative College program with Duke University School of the Environment (*www.env.duke.edu*) is designed to coordinate the undergraduate education of students at IUP with graduate programs in the areas of resources and environment offered at Duke. Undergraduate majors in one of the natural sciences, mathematics, economics, business, or political science are suited to the program. Preparation for the this program should include at least one year each of biology with work in botany, economics with a significant component of microeconomics, and mathematics which should include calculus, computer science, and statistics. Applicants to the Duke program who have completed courses in ecology, chemistry, geology, physics, and a foreign language or additional courses in biology, economics, and mathematics will be given preferential consideration. Students are accepted in either of two degree programs at Duke: the Master of Forestry or Master of Environmental Management.

Students may be accepted into the Duke graduate program after three years of high-quality undergraduate study at IUP or upon completion of the baccalaureate. Students who qualify after three years will have completed most of the undergraduate degree requirements at IUP except for total hours. Courses at Duke will be applied to the bachelor's degree at IUP.

Jefferson Medical College-IUP Physician Shortage Area Program

A cooperative Family Medicine Physician Education Program has been established by IUP and Jefferson Medical College of Thomas Jefferson University in Philadelphia for the purpose of improving the distribution of physicians in Pennsylvania. The program is designed to increase the opportunities for young women and men to practice family medicine in rural communities of Pennsylvania where there is a shortage of physicians. Students interested in this program should enroll as Family Medicine majors.

This program at Jefferson Medical College will admit approximately four graduates of IUP and twenty graduates of other colleges each year. Students from IUP will be admitted only if properly qualified according to the admission standards and policies of Jefferson Medical College. Applications are reviewed by the Joint IUP-Jefferson Subcommittee and recommendations made to the Jefferson Committee on Admissions.

Admission to Jefferson Medical College

A strong preparation in the sciences and mathematics basic to medical school studies is required. A variety of college course formats and combinations, including biology, general and organic chemistry, and physics are a minimum. Courses taken to meet the basic requirements should be rigorous and, in general, comparable to courses accepted for concentration in these disciplines. Courses taken should be supplemented by laboratory experiences. Students may take upper-level science courses out of educational interest or to fulfill the requirements of their major. Taking additional science courses that cover material taught within the medical school curriculum is not helpful to gaining admission.

Breadth of education is expected. Pursuit of some discipline in depth is encouraged. A successful medical student must actively acquire, synthesize, apply, and communicate information. These are skills that can be developed through a great variety of academic disciplines. Studies in the humanities and the social and behavioral sciences and development of effective writing skills are strongly suggested. Additional requirements for admission can be found in "Information for Prospective Students," published by Jefferson Medical College.

Students who qualify for the Physician Shortage Area Program must certify their intentions to adhere to the following plan of education and practice: (a) complete the family medicine curriculum during their four years of medical education at Jefferson Medical College, including a six-week clerkship in a rural area; (b) complete a three-year family medicine residency; and (c) agree to practice family medicine in an underserved area. Prefer-

ence will be given to Pennsylvania residents who are interested in this program, with highest priority given to those who actually live, at the time of application, in the underserved area in which they hope to practice. Dr. Allan Andrew, pre-medical advisor in the Biology Department, will assist students in program planning.

Lake Erie College of Osteopathic Medicine

Lake Erie College of Osteopathic Medicine and IUP have a cooperative "3+4" program. Students will be awarded a Bachelor of Science degree in Biology from IUP upon successful completion of the first-year curriculum at Lake Erie College of Osteopathic Medicine and of the undergraduate requirements at IUP. In order to be considered for the program, students must be in the top 25 percent of their graduating class, have a minimum SAT score of 1150 (recentered), and have additional documented evidence of scholarly/professional potential, leadership, and community involvement. While at IUP, these students must meet the following requirements:

1. Cumulative GPA of 3.2 or better overall
2. Cumulative GPA of 3.2 or better in prescribed science courses
3. A grade of C or better in all courses
4. Successful completion of Liberal Studies and required courses by the end of the third year
5. Successful completion of MCAT (Medical College Admission Test) no later than the spring semester of the third year with desired scores of 7 or better in each subtest and an overall score of 24 or better
6. Favorable letter of recommendation from the Premedical Advisory Committee
7. Completion of AACOMAS application

Marine Science Consortium

Biology majors interested in marine biology are encouraged to investigate summer courses offered through the Marine Science Consortium at Wallops Island, Va. Although IUP is not currently a member institution, students may register for courses offered at the Marine Science Consortium through any participating institution. (See *www.msconsortium.org/Welcome.htm* for a complete listing.) These courses may count as biology electives.

Pymatuning Laboratory of Ecology

Biology majors can expand their selection of course offerings by participating in a cooperative program with the University of Pittsburgh's Field Station at the Pymatuning Laboratory of Ecology located in northwestern Pennsylvania. These elective courses center on ecological and environmental topics and vary annually. Application and registration for both summer sessions must be completed by April 1. Students usually register for credit and pay fees at IUP. Books, lab fee, and room and board are paid to the Pymatuning Laboratory of Ecology. The faculty advisor for this program assists students in program planning, application, and registration.

IUP Department of Biology/University of Zimbabwe Department of Biological Sciences Exchange Program

The Department of Biology reciprocal exchange program with the University of Zimbabwe Department of Biological Sciences encourages both faculty and student exchanges in the major disciplines of biology. Students register and pay the cost of housing and meals, as well as any other mandatory semester fees in their home institution, and are then covered by the one-for-one exchange by the host institution. Course credits are transferable. Exchange of faculty and professional staff is also based on the principle of reciprocity. Dr. Amadu Ayebo, coordinator, will assist students in program planning.

Mentor Program and Biology Residence Floor

The Department of Biology offers a Peer Mentor Program that allows incoming students, new to IUP and new to Biology, to quickly gain an academic home. New students are assigned an upper-level Peer Mentor to help guide them through the curriculum, requirements, and programs within our department and college. A fall off-campus retreat is an important component of our Mentor Program, and students are expected to attend.

Elkin Hall, just behind Weyandt Hall (the home of the Department of Biology), has a single residence floor dedicated to Biology, Biology Education, Environmental Health Science, and Preprofessional (Pre-Med, Pre-Vet) students. Students with similar professional and academic interests can share life experiences by being part of this component of our academic community. Undeclared or Natural Science students with interests in Biology may also apply to be on this floor.

Degree Programs

In the programs of study that follow, no more than 6 credits total from internships, independent study, and special topics can be counted toward biology course requirements. Credits beyond six earned from these sources are counted as general electives. Note: Students changing into the majors of Biology, Biology Education, or Environmental Health Science are required to have a 2.5 cumulative GPA or permission of the chairperson.

Bachelor of Arts–Biology

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		48
Mathematics: MATH 121 or 217		
Natural Science: CHEM 111-112		
Liberal Studies Electives: 3cr, PHYS 111, no courses with BIOL prefix		
Major:		32
Required Courses:		
BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 210	Botany	3cr
BIOL 220	General Zoology	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 263	Genetics	3cr
Controlled Electives:		
Biology electives (major courses only)		12cr (1)
Other Requirements:		20-21
PHYS 121	Physics I Lab	1cr
Ancillary Science Courses:		
An additional 4-5 cr from the following (2, 3):		4-5cr
BIOC: 301, 302, 311, 312		
CHEM: 231, 232, 321, 323, 351		
GEOS: 121 and 122, 131 and 132, 141, 310, 330, 331, 361		
MATH: 122, 216, 217, 417, 418		
PHYS: 112 and 122, 151		
Planned Program in Complementary Field (requires advisor approval) with at least 6cr in 300/400-level courses (4)		15cr
Other Requirements:		0-6
Foreign Language Intermediate Level		0-6 cr (5)
Free Electives:		10-17
Total Degree Requirements:		120

(1) No more than 6cr total from Independent Study, Special Topics, or Internship applies to major, excess applied as free electives.

(2) If MATH 121 (4cr) is elected as the Liberal Studies MATH course, the additional requirement is 4cr; if MATH 217 (3cr) is elected, the additional requirement is 5cr.

(3) Other appropriate major courses in the above departments may be substituted for one or more of those on the above list with the approval of the student's advisor.

(4) Recommended complementary fields include Anthropology, Art, Business, Chemistry, Communications Media, Computer Science, Criminology, Dietetics, Economics, English, Foreign Language, Geography, Geoscience, Journalism, Mathematics, Physics, Political Science, Psychology, Regional Planning, or Safety Sciences. Some courses in complementary field may also fulfill Liberal Studies requirements (see Liberal Studies section). However, if complementary field selected is Chemistry, Geoscience, Mathematics, or Physics, courses used to

fulfill the ancillary science requirement above may not be applied to the complementary field requirement of 15cr.

(5) Two courses beyond placement or intermediate level.

Bachelor of Science–Biology

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 121 or 217 **Natural Science:** CHEM 111-112 **Liberal Studies Electives:** 3cr, PHYS 111, no courses with BIOL prefix		48
Major:		38
Required Courses:		
BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 210	Botany	3cr
BIOL 220	General Zoology	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 263	Genetics	3cr
Controlled Electives:		
Biology electives (major courses only)		18cr (1)
Other Requirements:		21-22 (2)
PHYS 121	Physics I Lab	1cr
Ancillary Science Courses:		
An additional 20-21 cr from the following (3, 4): BIOC: 301, 302, 311, 312 CHEM: 231, 232, 321, 323, 351 GEOS: 121 and 122, 131 and 132, 141, 310, 330, 331, 361 MATH: 122, 216, 217, 417, 418 PHYS: 112 and 122, 151		20-21cr
Other Requirements:		0-6
Foreign Language Intermediate Level		0-6 cr (5)
Free Electives:		3-10
Total Degree Requirements:		120

(1) No more than 6cr total from Independent Study, Special Topics, or Internship applies to major; excess applied as free electives.

(2) 21cr if the student elects MATH 121 in Liberal Studies or 22cr if the student elects to take MATH 217.

(3) If MATH 121 (4cr) is elected as the Liberal Studies MATH course, the additional requirement is 20cr; if MATH 217 (3cr) is elected, the additional requirement is 21cr.

(4) Other appropriate major courses in the above departments may be substituted for one or more of those on the above list with the approval of the student's advisor.

(5) Two courses beyond placement or intermediate level. In lieu of a foreign language, students in programs or tracks other than the Pre-Medical Track and the Pre-Veterinary Track may elect to take a sequence of courses in either Computer Science exclusive, of COSC 101 (COSC 110 and 210 recommended), or Regional Planning (from the following: RGPL 213, 314, 316, 415).

Bachelor of Science–Biology/Cell and Molecular Biology Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 121 **Natural Science:** CHEM 111-112 **Liberal Studies Electives:** 3cr, PHYS 111, no courses with BIOL prefix		48
Major:		38
Required Courses:		
BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 123	Perspectives in Cell and Molecular Biology	1cr
BIOL 210	Botany	3cr
BIOL 220	General Zoology	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 263	Genetics	3cr
BIOL 401	Laboratory Methods in Biology and Biotechnology	3cr
BIOL 410	Molecular Biology Topics	3cr
Controlled Electives: (1)		11cr
BIOL 151, 269, 271, 281 (2), 323, 331, 352, 362, 363, 364, 453, 460, 466, 476, 477, 481 (2), 482 (2), 493 (2)		
Ancillary Science Requirements:		24
Organic Chemistry Sequence:		
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
Biochemistry Sequence:		
BIOC 301	Biochemistry I	3cr
BIOC 302	Biochemistry II	3cr
BIOC 311	Biochemistry Laboratory I	1cr
BIOC 312	Biochemistry Laboratory II	1cr
Other Science/Mathematics Requirements:		
PHYS 121	Physics I Lab	1cr
MATH 217	Probability and Statistics	3cr
Science/Mathematics Elective:		
An additional 4cr in ancillary science/mathematics from the following: BIOC 480, 481, CHEM 321, 323, 331, 340, MATH 122, PHYS 112, 122		4cr (3)
Other Requirements:		0-6
Foreign Language Intermediate Level		0-6 cr (4)
Free Electives:		4-10
Total Degree Requirements:		120

(1) No more than 6cr total from Independent Study, Special Topics, Internship applies to major; excess applied as free electives.

(2) No more than 3cr may count toward Controlled Elective requirements.

(3) Other appropriate majors courses in these departments may be substituted for one or more of those on the above list with the approval of the student's advisor.

(4) Two courses beyond placement or intermediate level. Foreign Language course may count as Liberal Studies Elective (see Liberal Studies section). In lieu of a foreign language the student may elect to take a sequence of courses in Computer Science exclusive of COSC 101 (COSC 110 and 210 recommended).

Bachelor of Science–Biology/Pre-Veterinary Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 121 **Natural Science:** CHEM 111-112 **Liberal Studies Electives:** PSYC 101, no courses with BIOL prefix		48
Major: Required Courses:		38
Biology Core Courses:		
BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 210	Botany	3cr
BIOL 220	General Zoology	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 263	Genetics	3cr

Additional Required Biology Courses:

BIOL 242	Comparative Vertebrate Anatomy	3cr
BIOL 331	Animal Developmental Biology	3cr
BIOL 352	Comparative Animal Physiology	3cr

Controlled Biology Electives: BIOL 151, 269, 271, 363, 364, 401, 405, 453, 466, 476, 477, 481, 482, 493 — 9cr (1)

Ancillary Science Requirements: 20

Chemistry Sequence:

CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 351	Biochemistry	4cr

Physics Sequence:

PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Laboratory	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Laboratory	1cr

Mathematics: 4

MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6

Foreign Language Intermediate Level — 0-6 cr

Free Electives: 4-10

Total Degree Requirements: 120

(1) No more than 6cr total from Independent Study, Special Topics, and Internship applies to major, excess applied as free electives.

Bachelor of Science–Biology/Pre-Medical Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Mathematics: MATH 121
Natural Science: CHEM 111-112
Liberal Studies Electives: 3cr, no courses with BIOL prefix

Major: Required Courses 38

Biology Core Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 210	Botany	3cr
BIOL 220	General Zoology	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 263	Genetics	3cr

Additional Required Biology Courses:

BIOL 242	Comparative Vertebrate Anatomy	3cr
BIOL 331	Animal Developmental Biology	3cr
BIOL 352	Comparative Animal Physiology	3cr

Controlled Biology Electives: BIOL 151, 269, 271, 363, 364, 401, 405, 453, 466, 476, 477, 481, 482, 493 — 9cr (1)

Ancillary Science Requirements: 20

Chemistry Sequence:

CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 351	Biochemistry	4cr

Physics Sequence:

PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Laboratory	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Laboratory	1cr

Mathematics: 4

MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6

Foreign Language Intermediate Level — 0-6 cr

Free Electives: 4-10

Total Degree Requirements: 120

(1) No more than 6cr total from Independent Study, Special Topics, and Internship applies to major, excess applied as free electives.

Bachelor of Science in Education–Biology (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 110 or 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Liberal Studies Electives: 9cr, MATH 217, PHYS 151, one course with GEOS prefix from the Liberal Studies Natural Science (Option II) Nonlaboratory List; no courses with BIOL prefix

College of Education: 29

Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr

Professional Education Sequence:

EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching (1)	12cr
EDUC 442	School Law	1cr
EDUC 451	Teaching Science in the Secondary Schools	3cr

Major: (1) 29

Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 210	Botany	3cr
BIOL 220	General Zoology	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 263	Genetics	3cr
BIOL 480	Biology Seminar	1cr

Controlled Electives: (2)

Biology electives: (major courses only) — 8cr

Other Requirements: 8

Chemistry Sequence:

CHEM 231	Organic Chemistry I	4cr
CHEM 351	Biochemistry (3)	4cr

(#) **Total Degree Requirements:** 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) Eligibility for student teaching and certification in secondary biology education will require a grade of C or better in all biology courses and a cumulative combined GPA of 2.75 or better in biology and education courses.

(2) No more than 6cr from BIOL 482, 481, or 493 applies to major; excess applied as free electives.

(3) The two-semester (6cr) sequence of BIOC 301-302 can be substituted for CHEM 351 to meet the biochemistry requirement.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Bachelor of Science–Environmental Health Science

Liberal Studies: As outlined in Liberal Studies section with the following specifications: **Mathematics:** MATH 121 **Natural Science:** CHEM 111-112 **Social Science:** ECON 101, PSYC 101 or SOC 151 **Liberal Studies Electives:** 7cr, BTED/COSC/IFMG 101, MATH 216, no courses with ENVH prefix		53
Major:		29
Required Courses:		
BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 241	General Microbiology	3cr
BIOL 480	Biology Seminar	1cr
BIOL 493	Biology Internship (1)	5cr
ENVH 221	Environmental Health and Protection I	3cr
ENVH 222	Environmental Health and Protection II	3cr
ENVH 323	Introduction to Toxicology and Risk Assessment	3cr
ENVH 460	Fundamentals of Environmental Epidemiology	3cr
Other Requirements:		38
Required Courses:		
CHEM 231	Organic Chemistry I	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PLSC 250	Public Policy	3cr
PLSC 370	Introduction to Public Administration *or* MGMT 310 Principles of Management	3cr
SAFE 101	Introduction to Occupational Safety and Health	3cr
SAFE 210	Environmental Safety and Health Regulations	3cr
Controlled Electives: Six courses from the following: BIOL 220, CHEM 323, ENVH 281, 310, 481, 482, GEOS 121, 122, 331, PHYS 112, 122, RGPL 213, 316, 350, SAFE 301, 402, 461, 462		18cr
Total Degree Requirements:		120

(1) Eligibility for a summer internship requires a minimum GPA of 2.5 and a grade of C or better in all BIOL and ENVH courses.

Minor–Biology **20**

Required Courses:

BIOL 103-104	General Biology I and II *or* BIOL 111-112 Principles of Biology I and II	8cr
Additional BIOL courses (1, 2)		12cr

Other Requirements:
Student must have at least a 2.0 GPA in all BIOL courses for the minor.
Student must take at least 6cr of biology courses at IUP.
Must have permission of biology department chairperson.

(1) With approval of department chairperson.
(2) At least 8 of the 12 required additional BIOL cr must come from 200 level or higher courses.

Minor–Environmental Health Science **20**

Required Courses:

BIOL 103-104	General Biology I and II (1) *or* BIOL 111-112 Principles of Biology I and II	8cr
ENVH 221	Environmental Health and Protection I (2)	3cr
ENVH 222	Environmental Health and Protection II (2)	3cr
BIOL/ENVH 323	Introduction to Toxicology and Risk Assessment (2)	3cr
BIOL/ENVH 460	Fundamentals of Environmental Epidemiology (3)	3cr

(1) BIOL 151 or 155 can be substituted for BIOL 104.
(2) Prerequisites include CHEM 102 or 112.
(3) Prerequisites include MATH 216 or 217.

Biology Honors Track **9**

BIOL 484	Honors Seminar	2cr (1)
BIOL 483	Honors Thesis/Independent Study	4cr (1, 2)
BIOL 5XX/6XX	Graduate-level course	3cr (3)

(1) May be counted toward the following majors: B.A., B.S., and B.S.Ed. in Biology.
(2) Two semesters, 2cr each.
(3) Students must take one course at the 500/600 level during their junior or senior year. This will be in addition to the biology credits (currently 38 for all tracks) required for the major.

Biochemistry Program

Website: *www.iup.edu/biochemistry*
Jonathan N. Southard and N. Bharathan, Co-Coordinators; Butler, Hinrichsen, Luciano, Sowa, Biology and Chemistry faculties; and professor emeritus Harding

The B.S. in Biochemistry is a four-year degree curriculum offered as a cooperative program by the Biology and Chemistry departments. This Biochemistry Program also offers a minor in Biochemistry.

The curriculum leading to a B.S. in Biochemistry begins with foundation courses in biology, chemistry, mathematics, and physics in the first two years. Specialization in biochemistry commences in the third year with courses in biochemistry, genetics, physical chemistry, Special Topics in Biochemistry, and Biochemistry Seminar.

A unique feature of this undergraduate program is that Biochemistry research is a requirement. After consultation with faculty, the students will define a problem and devise an experimental plan through library research. Laboratory research will be done under the direct supervision of a faculty member. Finally, the student will report on the results of the research in both written and oral forms.

The B.S. degree in Biochemistry program is intended for those students whose interests lie in a most exciting field of modern science. Graduates of this program can expect to be qualified to enter graduate programs in biochemistry, biology, chemistry, and molecular biology, professional schools in the health sciences, and positions in industrial and government research laboratories and in industrial production facilities.

Bachelor of Science–Biochemistry

Liberal Studies: As outlined in the Liberal Studies section with the following specifications: **Mathematics:** MATH 123 **Natural Science:** PHYS 131-141 and 132-142 **Liberal Studies Electives:** 4 cr, MATH 124 no courses with BIOC prefix		50
Major:		51
Required Courses:		
BIOC 301	Biochemistry I	3cr
BIOC 302	Biochemistry II	3cr
BIOC 311	Biochemistry Laboratory I	1cr

BIOC 312	Biochemistry Laboratory II	1cr
BIOC 480	Biochemistry Seminar I	1cr (1)
BIOC 481	Special Topics in Biochemistry	3cr
BIOC 482	Independent Research in Biochemistry	2cr
BIOC 490	Biochemistry Seminar II	1cr (1)
BIOL 111	Principles of Biology I	4cr
BIOL 263	Genetics	3cr
BIOL 250	Principles of Microbiology	3cr
BIOL 401	Laboratory Methods in Biology and Biotechnology	3cr
CHEM 113	Concepts in Chemistry I	4cr
CHEM 114	Concepts in Chemistry II	4cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 323	Analytical Methods	4cr
CHEM 340	Physical Chemistry for the Biological Sciences	3cr

Controlled Electives: 6-7

Advanced Biology course chosen from the following:
BIOL 331, 350, 352, 364, or 453 3cr
Either MATH 216 or COSC 110 3-4cr

Other Requirements:
Foreign Language Intermediate Level 0-6

Free Electives: 6-13

Total Degree Requirements: 120

(1) 1cr each semester of senior year.

Minor–Biochemistry **17-20**

Total credits will depend on the controlled electives used (9cr minimum required to 12cr for three 4cr-electives).

Required Courses: 8

BIOC 301	Biochemistry I (1a)	3cr
BIOC 302	Biochemistry II	3cr
BIOC 311	Biochemistry Laboratory I (1a)	1cr
BIOC 312	Biochemistry Laboratory II	1cr

Other Requirements: 9-12

At least three controlled electives from following: (1)

BIOC 480	Biochemistry Seminar I	1cr
BIOC 481	Special Topics in Biochemistry	1-3cr
BIOC 490	Biochemistry Seminar II	1cr
BIOL 250	Principles of Microbiology (1b, d)	3cr
BIOL 263	Genetics (1b)	3cr
BIOL 350	Cellular Physiology	3cr
BIOL 352	Comparative Animal Physiology (1d)	3cr
BIOL 364	Immunology (1d)	3cr
BIOL 401	Laboratory Methods in Biology and Biotechnology (1d)	3cr
BIOL 453	Plant Physiology (1d)	3cr
CHEM 232	Organic Chemistry II (1c)	4cr
CHEM 322	Instrumental Analysis (1c, d)	4cr
CHEM 323	Analytical Methods	4cr

(1) Or other 200-level or higher Biology or Chemistry courses with permission of chairperson of offering department. A minimum of 9cr is required.
a. BIOL 111 and CHEM 232 are prerequisites.
b. Required for Biology major.
c. Required for Chemistry major.
d. These courses have prerequisites not needed for the required courses.

Department of Chemistry

Website: *www.iup.edu/chemistry*

Ruiess V. F. Ramsey, Chairperson, Eddy, Elcesser, Ford, Ko, Kondo, Kupchella, Lake, LeBlond, Long, See, Southard, Sowa, Wood, Woolcock; and professors emeriti Bordas, Costa, Fazio, Harding, Marks, McKelvey, Patsiga, Seroxton, Syty, Tackett, Wunz, Zambotti

Degrees offered by the Department of Chemistry are the Bachelor of Science degree in Chemistry, the Bachelor of Arts degree in Chemistry, and the Bachelor of Science in Education with a Chemistry major. The first two degrees are under the College of Natural Science and Mathematics, and the third is under the College of Education and Educational Technology. The department offers a formal pre-medical concentration in the B.A. curriculum and a Chemistry minor.

The B.S. degree in Chemistry is a professional degree and is certified by the American Chemical Society. The student completing this major should be qualified to assume a position in industry or government as a chemist or to pursue graduate studies leading to the M.S. or Ph.D. degree in chemistry, biochemistry, materials science, forensic science, or an associated field.

The curriculum leading to the B.A. degree in Chemistry is designed to allow for the workable union of other disciplines with chemistry in such a way as to retain the fundamental science and mathematics requirements needed for a career in chemistry. A careful selection of electives will qualify the student for entrance into many fields in which there is an acute need for persons with scientific training, and, at the same time, satisfy the entrance requirements of various professional and graduate schools. This degree may also be of interest to students who have completed a significant number of credits in another degree program and decide they want to earn a degree in chemistry.

The B.A. degree in Chemistry can incorporate a complementary program in almost any other field in the university; some disciplines which make useful combinations include biology, business administration, computer science, criminology (forensic science), English (technical writing), geoscience, government, physics, and safety science. In particular, a student seeking a career in forensic science should major in chemistry.

The B.A program offers a concentration in Pre-Medicine. This concentration includes all courses required for entrance into medical school and is sequenced to prepare students to take the MCAT in the spring of their junior year. A degree in chemistry, with Pre-Medical concentration, gives students the flexibility of choosing medical school, graduate school, or employment in the chemical industry after graduation.

Both degrees in chemistry also provide excellent preparation for entrance into a variety of other professional schools, including dental, veterinary, pharmacy, chiropractic, and law. Students considering going to one of these professional schools after completion of a chemistry degree should work closely with their advisor and select additional courses as required by the professional school.

The curriculum leading to the B.S. in Education with a Chemistry major is designed to prepare the student to teach chemistry at the secondary school level. Upon completion of the specified coursework and the requirements of the teacher certification process, the student is eligible for Pennsylvania certification by the Pennsylvania Department of Education. Additionally, the curriculum in this degree program is designed so that students have the opportunity to obtain a B.S Ed.–Chemistry degree certified by the American Chemical Society.

Bachelor of Arts–Chemistry

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 49
Mathematics: MATH 123
Natural Science: PHYS 111-121 and 112-122 ***or*** PHYS 131-141 and 132-142
Liberal Studies Electives: 3cr, no courses with CHEM prefix

Major: 30-33

Required Courses:

CHEM 113	Concepts in Chemistry I	4cr
CHEM 114	Concepts in Chemistry II	4cr
CHEM 214	Intermediate Inorganic Chemistry	2cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 321	Quantitative Analysis	4cr
CHEM 341	Physical Chemistry I	4cr
CHEM 343	Physical Chemistry Laboratory I	1cr

Controlled Electives (2)

At least 3cr from the following: CHEM 301, 322, 342, CHEM 351, 410, 411, BIOC 301, 302, 311 — 3-6cr

Other Requirements: 19-22

MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr

Planned program (with advisor approval) in complementary field of at least 15cr, with at least 6cr of 300/400-level courses (3) — 15cr

Foreign Language Intermediate Level (4) — 0-3cr

Free Electives: 16-22

Total Degree Requirements: 120

(1) CHEM 111 and 112 can be substituted for CHEM 113 and 114, respectively, for the B.A.–Chemistry degree.
(2) Students electing a concentration in Pre-Medicine must take CHEM 351 (4cr) or BIOC 301 and 302 (6cr)
(3) Students electing a concentration in Pre-Medicine must take BIOL 111, 151, 263, 331 and a 300-level BIOL elective.
(4) Intermediate-level foreign language may be included as Liberal Studies elective.

Bachelor of Science–Chemistry

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 49
Mathematics: MATH 123
Natural Science: PHYS 131-141 and 132-142
Liberal Studies Electives: 3cr, no courses with CHEM prefix

Major: 45

Required Courses:

CHEM 113	Concepts in Chemistry I	4cr
CHEM 114	Concepts in Chemistry II	4cr (1)
CHEM 214	Intermediate Inorganic Chemistry	2cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 301	Introduction to Chemical Research	1cr
CHEM 321	Quantitative Analysis	4cr
CHEM 322	Instrumental Analysis	4cr
CHEM 341	Physical Chemistry I	4cr
CHEM 342	Physical Chemistry II	3cr
CHEM 343	Physical Chemistry Laboratory I	1cr
CHEM 344	Physical Chemistry Laboratory II	1cr
CHEM 410	Advanced Inorganic Chemistry Laboratory	1cr
CHEM 411	Advanced Inorganic Chemistry	3cr
CHEM 498	Problems in Chemistry	2cr

Controlled Electives: (2)

Additional Chemistry electives from the following: CHEM 331, 421, 435, 441, 481 — 3cr

Other Requirements: 14-18

BIOC 301	Biochemistry I	3cr
BIOL 111	Principles of Biology I	4cr
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr

One additional mathematics elective from the following: MATH 171, 241, 342 — 3-4cr

Foreign Language Intermediate Level (3) — 0-3cr

Free Electives: 8-12

Total Degree Requirements: 120

(1) CHEM 111 and 112 can be substituted for CHEM 113 and 114, respectively, for the B.S. –Chemistry degree.
(2) Qualifying students can also use 500- or 600-level CHEM courses to meet this requirement.
(3) Intermediate-level Foreign Language may be included in Liberal Studies elective.

Bachelor of Science in Education–Chemistry (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 123, 124
Natural Science: PHYS 111-121 and 112-122
Social Science: PSYC 101
Liberal Studies Electives: 0cr

College: 29

Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr

Professional Education Sequence:

EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 451	Teaching Science in the Secondary School	3cr

Major: 32

Required Courses:

CHEM 113	Concepts in Chemistry I (1)	4cr
CHEM 114	Concepts in Chemistry II (1)	4cr
CHEM 214	Intermediate Inorganic Chemistry	2cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr
CHEM 321	Quantitative Analysis	4cr
CHEM 341	Physical Chemistry I	4cr
CHEM 343	Physical Chemistry Laboratory I	1cr
CHEM 499	Problems in Chemistry Education	1cr

Controlled Electives: (2) 4cr

Select 4cr from the following: CHEM 322, 342, 344, 351, 410, 411; BIOC 301, 311

Other Requirements: 8

BIOL 111	Principles of Biology	4cr
GEOS 111	Earth Science for Educators I *or* GEOS 113 Earth Science for Educators II	3cr
GEOS 112	Earth Science for Educators Lab I *or* GEOS 114 Earth Science for Educators Lab II	1cr

Free Elective: 1

(#) **Total Degree Requirements:** 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) CHEM 111 and 112 can be substituted for CHEM 113 and 114 respectively for the B.S.Ed.–Chemistry degree.
(2) A minimum of 6cr of Controlled Electives, including either CHEM 351 or BIOC 301, is required for the ACS-certified degree in Chemistry Education.
(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Minor–Chemistry **20**

Required Courses:

CHEM 111	General Chemistry I *or*	4cr
CHEM 113	Concepts in Chemistry I	
CHEM 112	General Chemistry II *or*	4cr
CHEM 114	Concepts in Chemistry II	
CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr

At least 4 additional cr from the following:
CHEM 321, 323, 341, 351 4cr

Department of Computer Science

Website: *www.iup.edu/compsci*
James L. Wolfe, Chairperson; Ali, Ezekiel, Farag, Oblitey, O'Neil, Shim, Shumba, Shubra; and professor emeritus Tompkins

The programs in Computer Science at IUP lead to the B.S. or B.A. degree and are designed primarily to prepare graduates for productive work in highly computer-dependent areas of business, government, and industry. In recent years, majors graduating from the program have attained their first jobs in business applications, programming and systems analysis, computer software development, scientific and applied mathematical programming, and other computer-related areas and have gone to graduate school.

In a rapidly developing field such as Computer Science, it is important that the graduate's education be broad and fundamental so that new trends can more readily be followed. Our goal is to balance fundamentality and breadth with sufficient supervised practice so that our graduates are productive at the time they graduate but ready and willing to change with the field.

Most applied computer scientists work in cooperation with professionals trained in other areas and with managers. Hence, the ability to work and communicate with others of different educational backgrounds is an important characteristic. To that end, we encourage Computer Science majors to take a strong minor (or area concentration) in a second area of interest. Some students may wish to double major. Majors in other disciplines at IUP are also welcome to take Computer Science courses for which they are qualified or a Computer Science minor.

Students majoring in Computer Science should set their goals beyond simple programming and should be preparing to:

1. program well, both in design and implementation phases, and document what they have programmed
2. analyze real-world problems in preparation for program design and implementation
3. manage activities that are strongly computer dependent
4. improve the tools that programmers and systems analysts use, i.e., to develop
   a. better software systems
   b. better graphical user interfaces
   c. better languages for communicating with computers
   d. better web-based interfaces and databases
   e. better methods for solving intractable problems
5. teach about computers at college or high school level
6. advance the fundamental theory of digital information processors
7. increase awareness of information assurance education and issues.

Bachelor of Arts–Computer Science

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 123 (1)
Liberal Studies Electives: 4cr, MATH 216 (1), no courses with COSC prefix

Major: 36

Required Courses:

COSC 105	Fundamentals of Computer Science	3cr
COSC 110	Problem Solving and Structured Programming	3cr
COSC 210	Object-Oriented and GUI Programming	3cr
COSC 220	Applied Computer Programming	4cr
COSC 300	Assembly Language Programming	3cr
COSC 310	Data Structures and Algorithms	3cr
COSC 341	Introduction to Database Management Systems	3cr
COSC 380	Seminar on the Computer Profession	1cr
COSC 480	Seminar on Technical Topics	1cr

Controlled Electives: 6cr from the following: (2)

COSC 250	Introduction to Numerical Methods	3cr
COSC 304	Interactive Internet Programming with Java	3cr
COSC 316	Cybersecurity Basics	3cr (3)
COSC 319	Software Engineering Concepts	3cr
COSC 320	Software Engineering Practice	3cr
COSC 344	Productivity Tools and Fourth Generation Languages	3cr
COSC 345	Data Communications	3cr
COSC/IFMG 354	Testing and Controlling LANs	3cr
COSC 355	Computer Graphics	3cr
COSC 356	Network Security	3cr
COSC 360	IBM Job Control Language	1cr
COSC 362	Unix Systems	3cr
COSC 481	Special Topics in Computer Science (only sections approved for majors)	1-4cr
COSC 482	Independent Study	1-4cr
COSC 493	Internship in Computer Science	12cr (4)
IFMG 455	Data Warehousing and Mining	3cr

Upper-level Electives by Categories: 6cr (5)
Computer Architecture: COSC 410
Theory of Languages: COSC 419, 420, 424, 460
Systems Programming: COSC 430, 432
Numerical Methods: COSC 427, 450, 451
Artificial Intelligence: COSC 405
Database Management: COSC 415

Other Requirements: 6-12
Additional Writing:

ENGL 322	Technical Writing	3cr
Foreign Language Intermediate Level		0-6cr

Additional Mathematics:

MATH 219	Discrete Mathematics	3cr (1)

Free Electives: 22-28

Total Degree Requirements: 120

(1) MATH 123 can be substituted by taking both MATH 121 and 122. MATH 216 can be substituted by taking both MATH 214 and 417 or both MATH 217 and 417.
(2) Select at least 6cr from the list of controlled electives. Note: Only 4cr of COSC 493 may be counted toward these 6cr.
(3) COSC 316 cannot be counted for major credit if a student does an Information Assurance minor
(4) COSC 493 may be selected in either the second semester of the junior year or the first semester of the senior year. If COSC 493 is selected and approved, COSC 380 should be taken in the immediately preceding semester.

(5) Select at least two additional courses, from at least two different categories, from the list of upper-level electives.

Bachelor of Science–Computer Science/Applied Computer Science Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Mathematics: MATH 123 (1)
Liberal Studies Electives: 4cr, MATH 216 (1),
no courses with COSC prefix

Major: 39
Required Courses:

COSC 105	Fundamentals of Computer Science	3cr
COSC 110	Problem Solving and Structured Programming	3cr
COSC 210	Object-Oriented and GUI Programming	3cr
COSC 220	Applied Computer Programming	4cr
COSC 300	Assembly Language Programming	3cr
COSC 310	Data Structures and Algorithms	3cr
COSC 319	Software Engineering Concepts	3cr
COSC 341	Introduction to Database Management Systems	3cr
COSC 380	Seminar on the Computer Profession	1cr
COSC 480	Seminar on Technical Topics	1cr

One of the following two courses: (2)

COSC 304	Interactive Internet Programming with JAVA	3cr
COSC 344	Productivity Tools and Fourth Generation Languages	3cr

One of the following two courses: (3)

COSC 320	Software Engineering Practice	3cr
COSC 493	Internship in Computer Science	12cr (4)

Controlled Electives: 3cr from the following: (5)

COSC 250	Introduction to Numerical Methods	3cr
COSC 316	Cybersecurity Basics	3cr (6)
COSC 345	Data Communications	3cr
COSC/IFMG 354	Testing and Controlling LANs	3cr
COSC 355	Computer Graphics	3cr
COSC 356	Network Security	3cr
COSC 360	IBM Job Control Language	1cr
COSC 362	Unix Systems	3cr
COSC 481	Special Topics in Computer Science (only sections approved for majors)	1-4cr
COSC 482	Independent Study	1-4cr
IFMG 455	Data Warehousing and Mining	3cr

Upper-level Electives by Categories: 3cr from the following: 3cr (7)
Artificial Intelligence: COSC 405
Computer Architecture: COSC 410
Database Management: COSC 415
Numerical Methods: COSC 427, 450, 451
Systems Programming: COSC 430, 432
Theory of Languages: COSC 419, 420, 424, 460

Other Requirements: 6-12
Additional Writing:

ENGL 322	Technical Writing	3cr
Foreign Language Intermediate Level		0-6cr

Additional Mathematics:

MATH 219	Discrete Mathematics	3cr (1)

Minor: Complete a minor from one of the following areas from: 7-18

Information Assurance	18cr
Any department in the College of Natural Sciences and Mathematics	7-18cr
Designated Business courses	18cr
Designated Economics courses	15cr
Designated Geography courses	15cr
Designated Communications Media courses	18cr

Free Electives: 1-18

Total Degree Requirements: 120

(1) MATH 123 can be substituted by taking both MATH 121 and 122. MATH 216 can be substituted by taking both MATH 214 and 417 or both MATH 217 and 417.
(2) Credit for both COSC 304 and 344 may be counted toward the degree, but only one will be counted toward the major requirements.
(3) Credit for both COSC 320 and 493 may be counted toward the degree, but only one will be counted toward the major requirements.
(4) COSC 493 may be selected in either the second semester of the junior year or the first semester of the senior year. if COSC 493 is selected and approved, COSC 380 may be taken in the immediately preceding semester.
(5) Select at least 3cr from the list of controlled electives and/or the list of upper-level electives.
(6) COSC 316 cannot be counted for major credit if a student does an Information Assurance minor.
(7) Select at least one additional course from list of upper-level electives.

Bachelor of Science–Computer Science/Languages and Systems Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Mathematics: MATH 123 (1)
Liberal Studies Electives: 4cr, MATH 124,
no courses with COSC prefix

Major:
Required Courses: 42

COSC 105	Fundamentals of Computer Science	3cr
COSC 110	Problem Solving and Structured Programming	3cr
COSC 210	Object-Oriented and GUI Programming	3cr
COSC 220	Applied Computer Programming	4cr
COSC 300	Assembly Language Programming	3cr
COSC 310	Data Structures and Algorithms	3cr
COSC 319	Software Engineering Concepts	3cr
COSC 341	Introduction to Database Management Systems	3cr
COSC 380	Seminar on the Computer Profession	1cr
COSC 480	Seminar on Technical Topics	1cr

9cr from the following upper-level electives:

COSC 405	Artificial Intelligence	3cr
COSC 410	Processor Architecture and Microprogramming	3cr
COSC 420	Modern Programming Languages	3cr
COSC 424	Compiler Construction	3cr
COSC 432	Introduction to Operating Systems	3cr
COSC 460	Theory of Computation	3cr

Controlled Electives: 6cr from the following: (2)

COSC 250	Introduction to Numerical Methods	3cr
COSC 304	Interactive Internet Programming with Java	3cr (3)
COSC 316	Cybersecurity Basics	3cr (4)
COSC 320	Software Engineering Practice	3cr (5)
COSC 344	Productivity Tools and Fourth Generation Languages	3cr (3)
COSC 345	Data Communications	3cr
COSC/IFMG 354	Testing and Controlling LANs	3cr
COSC 355	Computer Graphics	3cr
COSC 356	Network Security	3cr
COSC 360	IBM Job Control Language	1cr
COSC 362	Unix Systems	3cr
COSC 415	Internet Architecture and Programming	3cr
COSC 419	Software Development with Ada	3cr
COSC 427	Cryptography	3cr
COSC 430	Introduction to Systems Programming	3cr
COSC 450	Applied Numerical Methods	3cr
COSC 451	Numerical Methods for Supercomputers	3cr

COSC 481	Special Topics in Computer Science (as approved for majors)	1-4cr
COSC 482	Independent Study	1-4cr
COSC 493	Internship in Computer Science	12cr (5, 6)
IFMG 455	Data Warehousing and Mining	3cr
following:	**Other Requirements:**	13-19
Additional Writing:		
ENGL 322	Technical Writing I	3cr
Foreign Language Intermediate Level		0-6cr
Mathematics: A minor in mathematics including the following:		10cr (7)
MATH 123	Calculus I for Physics, Chemistry, and Mathematics (MATH 121 and 122 may be substituted)	
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	
MATH 171	Introduction to Linear Algebra	
MATH 216	Probability and Statistics for Natural Sciences	
MATH 219	Discrete Mathematics	
Free Electives:		9-15
Total Degree Requirements:		120

(1) MATH 123 can be substituted by taking both MATH 121-122.
(2) Select at least 6cr from the list of controlled electives. Note: Only 4cr of COSC 493 may be counted toward these 6cr.
(3) Credit for both COSC 304 and 344 may be counted toward the degree, but only one will be counted toward the major requirements.
(4) COSC 316 cannot be counted for major credit if a student does an Information Assurance minor.
(5) Credit for both COSC 320 and 493 may be counted toward the degree, but only one will be counted toward the major requirements.
(6) COSC 493 may be selected in either the second semester of the junior year or the first semester of the senior year. If COSC 493 is selected and approved, COSC 380 may be taken in the immediately preceding semester.
(7) In addition to MATH 171, 216 and 219, MATH 123-124 (taken as Liberal Studies requirement) are also counted towards the minor.

Bachelor of Science–Computer Science/Information Assurance Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		50
Mathematics: MATH 123 (2)		
Social Science: CRIM 101 (1)		
Liberal Studies Electives: 4cr, MATH 216 (2), no courses with COSC prefix		
Major:		
Required Courses:		42
COSC 105	Fundamentals of Computer Science	3cr
COSC 110	Problem Solving and Structured Programming	3cr
COSC 210	Object-Oriented and GUI Programming	3cr
COSC 220	Applied Computer Programming	4cr
COSC 300	Assembly Language Programming	3cr
COSC 310	Data Structures and Algorithms	3cr
COSC 319	Software Engineering Concepts	3cr
COSC 341	Database Management	3cr
COSC 380	Seminar on the Computer Profession	1cr
COSC 480	Seminar on Technical Topics	1cr
Information Assurance Required Courses:		
COSC 316	Cybersecurity Basics	3cr
COSC 356	Network Security	3cr
One of the following two courses:		
COSC 320	Software Engineering Practice ***or***	3cr
COSC 493	Internship (Information Assurance)	12cr (3)
Controlled Electives: 3cr from the following:		
COSC 345	Data Communications	3cr
COSC/IFMG 354	Testing and Controlling LANs	3cr
COSC 362	Unix Systems	3cr
COSC 481	Special Topics in Computer Science (as approved for majors in this track)	3cr
IFMG 382	IT Audit and Control	3cr
Upper-Level Electives: 3cr from the following:		
COSC 415	Internet Architecture and Programming	3cr
COSC 427	Cryptography	3cr
COSC 432	Introduction to Operating Systems	3cr
COSC 482	Independent Study	3cr
COSC 400-level course with department approval		3cr

Minor in Criminology 15 (1)

Other Requirements:		6-12
Additional Writing:		
ENGL 322	Technical Writing	3cr
Foreign Language Intermediate Level		0-6cr
Additional Mathematics:		
MATH 219	Discrete Mathematics	3cr (2)
Free Electives:		1-7
Total Degree Requirements:		120

(1) CRIM 101 (taken as part of the social science requirement) is counted as part of the 18cr Criminology minor. 15 additional cr of CRIM are required.
(2) MATH 123 can be substituted by taking both MATH 121 and 122. MATH 216 can be substituted by taking both MATH 214 and 417 or both MATH 217 and 417.
(3) Only 4cr of COSC 493 may be counted towards the major. COSC 493 may be selected in either the second semester of the junior year or the first semester of the senior year. If COSC 493 is selected and approved, COSC 380 may be taken in the immediately preceding semester.

Minor–Computer Science **15**

Required Courses:
COSC electives (1, 2, 3) 15cr

(1) The Computer Science minor consists of 15cr of COSC electives. At least 9 of the 15cr must be COSC courses numbered higher than 200.
(2) COSC 101 is an appropriate entry course for minors or for students who wish to take only one course. However, COSC 101 cannot be counted as part of a Computer Science minor by Management Information Systems majors.
(3) See Computer Science minor advisor for suggestions.

Minor–Information Assurance (1) **18**

Required Courses:		
COSC 110	Problem Solving and Structured Programming	3cr (3)
COSC 316	Cybersecurity Basics	3cr
COSC 352	LAN Design and Installation	3cr
CRIM 101	Crime and Justice Systems (2) ***or***	3cr
CRIM 102	Survey of Criminology (2)	
CRIM 321	Cybersecurity and Loss Prevention	3cr
CRIM 323	Cybersecurity and the Law	3cr

(1) Computer Science/Information Assurance Track majors are not eligible to take this minor; instead, they must take a Criminology minor.
(2) Criminology majors cannot count CRIM 101 or 102; instead, they must take one additional course from the following: COSC 341, 356, 362, 427, 432, 482, IFMG 382.

(3) Computer Science majors cannot count COSC 110; instead, they must take one additional course from the following: CRIM 300, 355, 400, 401, 481, 482.

Department of Geoscience

Website: *www.iup.edu/geoscience*

Darlene S. Richardson, Chairperson; Cercone, Hovan, Kulessa, Poage, Taylor; and professors emeriti Hall, Park, Sutton

Geology is a far-ranging science and encompasses various aspects of the Earth system, including the oceans, the atmosphere, and the solid Earth. Professional geologists are thus engaged in a wide range of activities, depending upon their interests. The problems with which geologists are faced include the evolution of life, the origin of volcanic activity, the assessment of volcanic and earthquake hazards, the evolution of our planetary neighbors, and perhaps most important, the human impact on our environment.

The department offers a degree in Geology that is divided into two tracks: Geology and Environmental. Either track gives students the necessary foundation to pursue a wide variety of career goals. In addition, we offer degrees in secondary education for those students who are interested in teaching. The degrees and courses in our program emphasize hands-on learning, including outdoor instruction and student-oriented research. In addition to on-campus instruction and class-related field trips, the department offers several regional geology field courses, which take place in Newfoundland, the Yellowstone region, the Bahamas, and the American Southwest.

The B.S. in Geology/Geology Track is designed for students who are interested in pursuing any of the various subdisciplines in Geology, including Oceanography/Marine Geology, Climate Change, Volcanology, Paleontology, Meteorology, and Geophysics. There is also considerable overlap between geology and astronomy; it is primarily geologists who explore the evolution of other planetary bodies, such as the Moon, Mars, and Venus. Our curriculum reflects various interdisciplinary links and provides the foundation needed to pursue a wide variety of career goals. Career options include teaching, graduate school/research, and employment as a professional geologist (associated with a private business, an environmental firm, or as a consultant for a federal or state agency).

The B.S. in Geology/Environmental Track is designed for students who wish to pursue a career in the environmental field. In spite of our brief residence time, our presence has had a significant, and in some cases negative, impact upon our environment. Geologists play a key role in dealing with environmental issues, and our Environmental Track prepares students to address various environmental problems. Graduates from this track will be prepared for direct entry into jobs with federal or state agencies and private environmental consulting firms, as well as postgraduate studies.

The Minor in Geology is designed for students who desire some background in Geology, in conjunction with a degree in business or one of the social or physical sciences. The department also serves public education by preparing qualified and certified teachers in the field of Earth and Space Sciences and General Science Education.

Minor in Geology

The minor in Geology consists of 17 credits. Required are GEOS 121-122 and GEOS 131-132. Three upper-level (300 or higher) courses in geology (total 9cr) make up the remaining requirements for the minor.

Bachelor of Science–Geology/Geology Track

Liberal Studies: As outlined in Liberal Studies section 50
with the following specifications:
Mathematics: MATH 121 or 123
Natural Science: CHEM 111-112 or 113-114
Liberal Studies Electives: 4cr, MATH 122 or 124, no courses with GEOS prefix

Major: 29

Geoscience Core:

GEOS 121	Physical Geology	3cr
GEOS 122	Physical Geology Laboratory	1cr
GEOS 131	Historical Geology	3cr
GEOS 132	Historical Geology Laboratory	1cr
GEOS 220	Mineralogy	3cr
GEOS 320	Igneous and Metamorphic Petrology	3cr
GEOS 325	Structural Geology	3cr
GEOS 326	Field Geology	3cr
GEOS 380	Research Methods in the Geosciences	2cr
GEOS 411	Sedimentary Petrology	3cr
GEOS 412	Stratigraphy	3cr
GEOS 480	Geoscience Seminar	1cr

Geology Track: 23-24

GEOS 330	Paleontology	3cr
GEOS 362	Plate Tectonics	3cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr

Controlled Electives: 9-10cr
Select three courses from the following:
GEOG 316, MATH 216, GEOS courses 300 or above (1)

Other Requirements: 0-6
Foreign Language Intermediate Level (2) 0-6cr

Free Electives: 11-18

Total Degree Requirements: 120

(1) Up to 3cr of a summer field camp, internship, or independent study, all of which must be approved by the department, may be applied to controlled electives.
(2) 6cr of computer language may substitute for the foreign language requirement: COSC 110 and 310 (recommended), other higher-level COSC courses with department permission in consultation with the Computer Science Department.

Bachelor of Science–Geology/Environmental Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 121 or 123
Natural Science: CHEM 111-112 or CHEM 113-114
Liberal Studies Electives: 7cr, MATH 122 or 124, PHYS 111, no courses with GEOS prefix

Major: 29

Required Courses:

GEOS 121	Physical Geology	3cr
GEOS 122	Physical Geology Laboratory	1cr
GEOS 131	Historical Geology	3cr
GEOS 132	Historical Geology Laboratory	1cr
GEOS 220	Mineralogy	3cr
GEOS 320	Igneous and Metamorphic Petrology	3cr
GEOS 325	Structural Geology	3cr
GEOS 326	Field Geology	3cr
GEOS 380	Research Methods in Geoscience	2cr
GEOS 411	Sedimentary Petrology	3cr
GEOS 412	Stratigraphy ***or***	
GEOS 327	Geomorphology	3cr
GEOS 480	Geoscience Seminar	1cr

Environmental Track: 22-23

BIOL 111	Principles of Biology I	4cr
GEOS 310	Environmental Geology	3cr
GEOS 331	Hydrogeology	3cr

GEOS 332	Geochemistry	3cr
PHYS 121	Physics I Lab	1cr
Controlled Electives: (1, 2)		8-9 cr

Select three courses from the following. (3)
Biology Electives: BIOL 112, 250, 321, 322, 362
Chemistry Electives: CHEM 231, 232, 322, 323, 341
Allied Fields: GEOS courses 300 or above (4), COSC 250, GEOG 316, 415, MATH 216, PHYS 112-122, SAFE 101

Other Requirements:	0-6
Foreign Language Intermediate Level (5)	0-6cr

Free Electives:	9-16
Total Degree Requirements:	120

(1) Some courses have prerequisites that may be taken as free electives.
(2) Students who plan to pursue graduate-level studies are encouraged to take PHYS 112-122.
(3) Select one each from the Biology and Chemistry electives lists, and a third from any of the three elective lists.
(4) Up to 3cr of a summer field camp, internship, or independent study, all of which must be approved by the department, may be applied to controlled electives.
(5) 6cr of computer language may substitute for the foreign language requirement. COSC 110 and 310 (recommended) or other higher-level COSC courses with department permission in consultation with the Computer Science Department.

Minor–Geology **17**

Required Courses:

GEOS 121	Physical Geology	3cr
GEOS 122	Physical Geology Laboratory	1cr
GEOS 131	Historical Geology	3cr
GEOS 132	Historical Geology Laboratory	1cr
Three upper-level (300 or higher) courses in Geology		9cr

Bachelor of Science in Education–Earth and Space Science (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 52
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Liberal Studies Electives: 6cr, MATH 217, PHYS 111, no courses with GEOS prefix

College: 29
Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 451	Teaching Science in the Secondary School	3cr

Major: 39
Required Courses:

BIOL 103	General Biology I	4cr
GEOS 121	Physical Geology	3cr
GEOS 122	Physical Geology Laboratory	1cr
GEOS 131	Historical Geology	3cr
GEOS 132	Historical Geology Laboratory	1cr
GEOS 341	Solar System	3cr
GEOS 342	Stellar Astronomy	3cr
GEOS 350	Operation of the Planetarium	1cr
GEOS 361	Physical Oceanography	3cr
GEOS 371	Meteorology I	3cr
PHYS 112	Physics II Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 122	Physics II Lab	1cr
Controlled Electives:		
Geology electives (200 level or higher)		9cr

Total Degree Requirements:	120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

Bachelor of Science in Education–General Science Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 52
Mathematics: MATH 121 (1)
Natural Science: CHEM 111-112
Social Science: PSYC 101
Liberal Studies Electives: 6cr, MATH 217, PHYS 111, no courses with prefix of chosen track in major

College: 29
Preprofessional Education Sequence:

COMM 103	Digital Instructional Technology	3cr
EDSP 102	Educational Psychology	3cr
Professional Education Sequence:		
EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 451	Teaching Science in the Secondary School	3cr

Major: 36-38
Required Courses:

BIOL 103	General Biology I	4cr
BIOL 104	General Biology II	4cr
GEOS 111	Earth Science for Educators I	3cr
GEOS 112	Earth Science for Educators I Lab	1cr
GEOS 113	Earth Science for Educators II	3cr
GEOS 114	Earth Science for Educators II Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 122	Physics II Lab	1cr
Controlled Electives:		15-17cr

Biology track: BIOL 210, 220, 250, 272, 480, BIOL elective
Chemistry track: CHEM 231, 321, 351, 232 *or* 340 *or* 341
Geoscience track: GEOS 121, 122, 131, 132, 341 *or* 342, 361, 371
Physics track: PHYS 222, 231, 242, 331, 350 (1)

Free Electives:	1-3
(#) Total Degree Requirements:	120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(1) Note: If Physics track is elected, MATH 123 and 124 are required in place of MATH 121 resulting in additional total cr.
(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Department of Mathematics

Website: *www.iup.edu/math*

Gary S. Stoudt, Chairperson; Adkins, Alarcon, Baker, Balenovich, Buriok, Burkett, Donley, Duhovsky, Early, Feldman, Frank, Gorman, Kuo, Lamberski, Lattanzio, Maier, Mitchell, Morgan, Myers, P. Ray, Short, Steelman, Stempien, Walker, Wisloski, Zhang; and professors emeriti Angelo, Arms, Broughton, Davis, Duncan, Gibson, Hartman, Massey, D. McBride, R. McBride, Mueller, Oakes, J. Reber, Rettig, Shawer, E. Smith, W. Smith, Stilwell, Willison, Woodard

The Department of Mathematics prepares students for work in industry, graduate school mathematics, and teaching. Degrees offered by the department are the Bachelor of Science degree in Mathematics, the Bachelor of Science degree in Applied Mathematics, the Bachelor of Arts degree in Economics/Mathematics, and the Bachelor of Science in Education with a major in Mathematics Education. The first two degree programs are offered within the College of Natural Sciences and Mathematics, the third is shared with the Economics Department, and the fourth is in conjunction with the College of Education and Educational Technology. The department also offers a minor in Mathematics, a minor in Applied Statistics, and a concentration in Mathematics for Elementary Education majors.

The program for a mathematics major in the College of Natural Sciences and Mathematics is two-phased. A student may pursue a degree in Applied Mathematics or Mathematics. Those completing a degree in Mathematics will be prepared to continue their studies in mathematics in graduate school, though some may enter business, industry, or government service. Students receiving a degree in Applied Mathematics will be primarily prepared to enter business, industry, or government service in an area where mathematics or computer science is used or to continue their studies in applied mathematics or computer science in graduate school. This student would not be expected to continue graduate studies in pure mathematics.

The department shares in a joint degree with the Economics Department. Students with ability and interest in economics discover that a solid background in mathematics is an essential prerequisite for advanced theoretical and applied work in the discipline. Similarly, students with talent and interest in mathematics find economics an excellent field in which to employ their skills and knowledge. The B.A. degree in Mathematics/Economics allows students to combine these complementary subjects in a joint degree program administered cooperatively by the departments of Mathematics and Economics. Enrolled students will be assigned an advisor in each department.

Those completing the program will have an exceptional background for graduate study in economics and such related fields as business, public policy, or operations research. They also will be ideally prepared to fill a wide variety of technical and quantitative positions in both government and private industry.

The program leading to the B.S. in Education with a major in Mathematics Education prepares the student for teaching mathematics in junior or senior high school. Many graduates, however, continue their formal education in mathematics at the graduate level or work in government or industry.

Elementary Education majors may elect to take a concentration of at least 15 credits in mathematics. The program of courses for this concentration in mathematics is as follows: in addition to MATH 151 and 152, select 9 credits from the following courses: MATH 317, 420, 456, 457, 458, 459, 471, or 481.

Minor in Mathematics

The minor consists of a minimum of 17 credits in mathematics. The minor in Mathematics may offer preparation for advanced study in areas such as Economics, Computer Science, Physics, and other natural sciences. Any student who is required to take a year of calculus should consider this minor.

Minor in Applied Statistics

The minor in Applied Statistics, consisting of 16 credits, may be of interest to students who are required to take a calculus course and a course in probability and statistics. This includes, but is not limited to, students with majors in business, Safety Sciences, or Computer Science.

A cumulative GPA of at least 2.0 in MATH courses is required for a minor in Mathematics or Applied Statistics. The department will not certify a minor for a transfer student unless at least two of the courses counting for the minor have been completed in the Mathematics Department.

Bachelor of Science–Applied Mathematics

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		54
Mathematics: MATH 123		
Liberal Studies Electives: 9cr, no courses with MATH prefix		
Major:		36-37
Required Courses:		
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 216	Probability and Statistics for Natural Sciences	4cr
MATH 241	Differential Equations	3cr
MATH 271	Introduction to Mathematical Proofs I	3cr
MATH 272	Introduction to Mathematical Proofs II	3cr
MATH 480	Senior Seminar	1cr
Controlled Electives: (1)		
Two courses from the following: MATH 371, 421, 422, 423, 424, 427, 476, 477		6cr
One of the following two-course sequences: MATH 342/COSC 450 or COSC 451 or MATH 451; MATH 363-364; MATH 445-446		6-7cr
A minimum of 3 additional cr from the list of controlled electives above or the following: MATH 353, 425, 447, 465, 481		3cr
Other Requirements:		6-12
Computer Science:		
COSC 110	Problem Solving and Structured Programming	3cr
COSC 250	Introduction to Numerical Methods	3cr
Foreign Language Intermediate Level (2)		0-6cr
Free Electives:		17-24
Total Degree Requirements:		120

(1) A student may select courses to fulfill requirements for specialized track.
Actuarial/Statistics: MATH 363, 364, 366, 371, 421, 446, 465
Math Analyst/Engineering: MATH 342/COSC 450, COSC 451, MATH 371, 423, 447, 451
Operations Research: MATH 371, 421, 445/446, 447
(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science–Mathematics

Liberal Studies: As outlined in Liberal Studies section with the following specifications:		54
Mathematics: MATH 123		
Liberal Studies Electives: 9cr, no courses with MATH prefix		

Major: 36-37

Required Courses:

MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 216	Probability and Statistics for Natural Sciences	4cr
MATH 241	Differential Equations	3cr
MATH 271	Introduction to Mathematical Proofs I	3cr
MATH 272	Introduction to Mathematical Proofs II	3cr
MATH 480	Senior Seminar	1cr

Controlled Electives:

Four courses from the following: 12cr
MATH 371, 421, 422, 423, 424, 427, 476, 477

A minimum of 3 additional cr from the list of controlled electives above or the following: MATH 342, 350, 353, 355, 363, 364, 425, 445, 446, 447, 465, 481 3-4cr

Other Requirements: 3-9

Computer Science:

COSC 110	Problem Solving and Structured Programming	3cr
Foreign Language Intermediate Level (1)		0-6cr

Free Electives: 20-27

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts–Economics/Mathematics

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 54
Mathematics: MATH 123
Social Science: ECON 121
Liberal Studies Electives: 9cr, no courses with ECON or MATH prefix

Major: 46-48

Core:

ECON 122	Principles of Microeconomics	3cr
ECON 421	Macroeconomics Analysis	3cr
ECON 422	Microeconomics Analysis	3cr
MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 216	Probability and Statistics for Natural Sciences *or*	
ECON 355	Statistics for Economists	3-4cr

Economics Electives: (1, 2) 12cr
Students are especially encouraged to take ECON 334 and 356, but any course except ECON 101 may be used.

Mathematics Electives: 15-16cr
At least one of the following two-semester sequences:
MATH 241 and 371, MATH 363-364, or MATH 445-446
Three additional courses either from the above or from the following: MATH 271, 272, 342, 417 or 418, 421, 422, 423, 425, 427, 451, 465, 476, 477

Other Requirements: College: 0-6
Foreign Language Intermediate Level (3)

Free Electives: 12-20

Total Degree Requirements: 120

(1) No more than 6cr of internship credit may be applied toward major.
(2) No more than one ECON Controlled Elective may be a 200-level course.
(3) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science in Education–Mathematics Education (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: MATH 123
Social Science: PSYC 101
Liberal Studies Electives: 6cr, no courses with MATH prefix

College: 26

Professional Education Sequence:

EDEX 301	Education of Students with Disabilities in Inclusive Secondary Settings	2cr
EDSP 102	Educational Psychology	3cr
EDSP 477	Assessment of Student Learning: Design and Interpretation of Educational Measures	3cr
EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 456	Teaching Math in the Secondary Schools	3cr

Major: 35

Required Courses:

MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 216	Probability and Statistics for Natural Sciences	4cr
MATH 271	Introduction to Mathematical Proofs I	3cr
MATH 272	Introduction to Mathematical Proofs II	3cr
MATH 340	Principles of Secondary School Mathematics	3cr
MATH 350	History of Mathematics	3cr
MATH 353	Theory of Numbers	3cr
MATH 355	Foundations of Geometry I	3cr
MATH 430	Seminar in Teaching Secondary School Mathematics	3cr
MATH 460	Technology in Mathematics Instruction	3cr

Other Requirements: 3

COSC 110	Problem Solving and Structured Programming	3cr

Free Electives: 5

Total Degree Requirements: 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

Minor–Applied Statistics 16

At least 16cr selected as follows:

a) Introductory calculus course: MATH 115 or 121 or 123
b) Introductory statistics course: MATH 214 or 216 or 217
c) MATH 417
d) MATH 418

The remaining hours may be chosen from the following:

a) A second calculus course: MATH 122 or 124
b) MATH 171
c) QBUS 215
d) Any course for mathematics majors approved by the Applied Statistics Advisor.

Minor–Mathematics 17

Required Courses: 8cr
MATH 121 and 122 *or* MATH 123 and 124

Controlled Electives: 9cr (1)
Other courses for math majors, MATH 219 may be included

(1) The following courses are excluded: MATH 100, 101, 105, 110, 115, 117, 214, 217, 417, 418, and courses for the Elementary Education concentration in Mathematics.

Natural Science

Website: *www.iup.edu/preprofessional*
Andrew C. Browe, Coordinator

The program leading to the B.S. degree in Natural Science is designed to prepare students for admission to professional schools–optometry, podiatry, chiropractic, physical therapy, pharmacy, and dentistry. Another separate track prepares students for further study in engineering. The B.S. degree in Natural Science will be earned by students who transfer to professional schools which have an articulation agreement with IUP. In some cases, students interested in obtaining a four-year baccalaureate degree before entering a medical or professional school should enroll in a program leading to a B.A. or B.S. degree in the departments of Biology or Chemistry. Students considering a professional career in a high-technology business or health-oriented businesses or industries may wish to obtain a foundation in the Natural Sciences while using their free electives to pursue additional work in areas such as Molecular Biology, Biochemistry, Psychology, Economics, Pre-Law, or Athletic Training. The B.S in Natural Science may not be used for a second major or a second degree by majors in the College of Natural Sciences and Mathematics. For further information, contact the coordinator of the Natural Science Program.

Bachelor of Science–Natural Science

Liberal Studies: As outlined in Liberal Studies section 49
with the following specifications:
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement
Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: BTED/COSC/IFMG 101; no courses with SCI prefix

Major: 41
Required Courses:
Biology:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr

Chemistry:

CHEM 231	Organic Chemistry I	4cr
CHEM 232 ***or*** 351	Organic Chemistry II ***or*** Biochemistry	4cr

Physics:

PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	General Physics II	3cr
PHYS 122	General Physics II Lab	1cr

Mathematics:

MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6
Foreign Language Intermediate Level 0-6cr

Free Electives: 24-30

Total Degree Requirements: 120

Bachelor of Science–Natural Science/Pre-Chiropractic Track (*)

Liberal Studies: As outlined in Liberal Studies section 49
with the following specifications:
Mathematics: 4cr, MATH 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement
Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: COSC 101, no courses with SCI prefix

Major: 41
Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232 ***or*** 351	Organic Chemistry II ***or*** Biochemistry	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6
Foreign Language Intermediate Level

Free Electives: (1) 0-30
Electives to meet minimum of 90 IUP cr and minimum of 24cr in Humanities and Social Sciences for admission to affiliated chiropractic colleges after three years at IUP
Maximum cr for work at affiliated chiropractic school 30cr

Total Degree Requirements: 120

(*) Accelerated three-year New York Chiropractic College (NYCC) and Logan Chiropractic College (LCC) programs. A maximum of 30cr of work may be transferred after the first year at NYCC or LCC. Upon completion of the first year of studies at NYCC or LCC, a transcript from NYCC or LCC is to be sent by the student to the dean of the College of Natural Sciences and Mathematics with a note requesting application materials for graduation.
(1) Student is to work with his/her advisor to select appropriate free electives for professional school. Additional courses in Biology and HPED 315 or 345 are recommended.

Bachelor of Science–Natural Science/Pre-Dentistry Track (*)

Liberal Studies: As outlined in Liberal Studies section 49
with the following specifications:
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement
Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: COSC 101, no courses with SCI prefix

Major: 41

Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232 *or* 351	Organic Chemistry II *or* Biochemistry	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6

Foreign Language Intermediate Level

Free Electives: (1) 0-30

Electives to meet minimum of 90 IUP cr and minimum of 24cr in Humanities and Social Sciences for admission to affiliated dental school after three years at IUP

Maximum cr for work at affiliated dental school 30cr

Total Degree Requirements: 120

(*) Accelerated three-year Temple University School of Dentistry program. A maximum of 30cr of work may be transferred after the first year at Temple University School of Dentistry. Upon completion of the first year of studies at Temple University School of Dentistry, a transcript from Temple University is to be sent by the student to the dean of the College of Natural Sciences and Mathematics with a note requesting application materials for graduation.

(1) Student is to work with his/her advisor to select appropriate free electives for professional school. Ceramics and additional courses in Biology are highly recommended.

Bachelor of Science–Natural Science/Pre-Engineering Track

Liberal Studies: As outlined in Liberal Studies section 53
with the following specifications:
Mathematics: MATH 123
Humanities/Philosophy and Religious Studies: PHIL 222
Natural Science: CHEM 111-112
Social Science: ECON 121, PLSC 101 or 111
Synthesis: not required for three-year students
Writing Intensive: one course required for three-year students
Liberal Studies Electives: MATH 124, no courses with SCI prefix

Major: 33-35

Required Courses:

COSC 110	Problem Solving and Structured Programming	3cr
COSC 250	Introduction to Numerical Methods	3cr
MATH 171	Introduction to Linear Algebra	3cr
MATH 241	Differential Equations	3cr
MATH 342	Advanced Mathematics for Applications	4cr
PHYS 131	Physics I-C Lecture	3cr
PHYS 132	Physics II-C Lecture	3cr
PHYS 141	Physics I-C Lab (or PHYS 121 Lab)	1cr
PHYS 142	Physics II-C Lab	1cr
PHYS 331	Modern Physics (2)	3cr

Controlled Electives: one package, depending on program

Chemical Engineering:

CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr

Civil Engineering:

MATH 216	Probability and Statistics for Natural Sciences	4cr
——	Technical elective	3-4cr

Electrical Engineering:

MATH 216	Probability and Statistics for Natural Sciences	4cr
——	Technical elective	3-4cr

Industrial Engineering:

MATH 216	Probability and Statistics for Natural Sciences	4cr
——	Technical elective	3-4cr

Materials Science and Engineering:

CHEM 231	Organic Chemistry I	4cr
CHEM 232	Organic Chemistry II	4cr

Mechanical Engineering:

—— Technical electives 6-8cr

Other Requirements: 0-6

Foreign Language Intermediate Level (1)

Free Electives: 9

Other Requirements: about 64

Two years at University of Pittsburgh School of Engineering (2, 3)

(#) Total Degree Requirements: 159-161

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

(2) A 2.8 cumulative GPA is required for transfer to the University of Pittsburgh.

(3) For curriculum information about the cooperative program in engineering with Drexel University, refer to the catalog section for the Physics Department.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Bachelor of Science–Natural Science/Pre-Optometry Track (*)

Liberal Studies: As outlined in Liberal Studies section 49
with the following specifications:
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: ECON 101, PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement
Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: COSC 101, no courses with SCI prefix

Major: 41

Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232 *or* 351	Organic Chemistry II *or* Biochemistry	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6

Foreign Language Intermediate Level

Free Electives: (1) 0-30
Electives to meet minimum of 90 IUP cr and minimum of 24cr in Humanities and Social Sciences for admission to affiliated optometry school after three years at IUP
Maximum cr for work at affiliated optometry school 30cr

Total Degree Requirements: 120

(*) Accelerated three-year Pennsylvania College of Optometry (PCO) program. A maximum of 30cr of work may be transferred after the first year at PCO. Upon completion of the first year of studies at PCO, a transcript from PCO is to be sent by the student to the dean of the College of Natural Sciences and Mathematics with a note requesting application materials for graduation.

(1) Student is to work with his/her advisor to select appropriate free electives for professional school. Neurobiology and Optics are highly recommended courses.

Bachelor of Science–Natural Science/Pre-Pharmacy Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 49
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: ECON 101, PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement
Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: COSC 101, no courses with SCI prefix

Major: 41
Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232 *or* 351	Organic Chemistry II *or* Biochemistry	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6
Foreign Language Intermediate Level

Free Electives: (1) 0-30
Electives to meet minimum of 90 IUP cr and minimum of 24cr in Humanities and Social Sciences for admission to affiliated pharmacy school after three years at IUP
Maximum cr for work at affiliated pharmacy school 30cr

Total Degree Requirements: 120

(*) Accelerated three-year Shenandoah University School of Pharmacy (SUSP) or Lake Erie College of Osteopathic Medicine School of Pharmacy (LECOMP) program. A maximum of 30cr may be transferred after first year at SUSP or LECOMP. Upon completion of the first year of studies at either SUSP or LECOMP, a transcript from SUSP or LECOMP is to be sent by the student to the dean of the College of Natural Science and Mathematics at IUP with a note requesting application materials for graduation.

(1) Student is to work with his/her advisor to select appropriate free electives for professional school. Additional courses in Chemistry and COMM 101 are recommended.

Bachelor of Science–Natural Science/Pre-Physical Therapy Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 49
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement
Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: COSC 101, no courses with SCI prefix

Major: 41
Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232 *or* 351	Organic Chemistry II *or* Biochemistry	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6
Foreign Language Intermediate Level

Free Electives: (1) 0-30
Electives to meet minimum of 90 IUP cr and minimum of 24cr in Humanities and Social Sciences for admission to affiliated physical therapy school after three years at IUP
Maximum cr for work at affiliated physical therapy school 30cr

Total Degree Requirements: 120

(*) Accelerated three-year Gannon University School of Physical Therapy program. A maximum of 30sh of work may be transferred after the first year at Gannon University School of Physical Therapy. Upon the completion of the first year of studies at Gannon University School of Physical Therapy, a transcript from Gannon University is to be sent by the student to the dean of the College of Natural Sciences and Mathematics with a note requesting application materials for graduation.

(1) Student is to work with his/her advisor to select appropriate free electives for professional school. Neurobiology, Biomechanics, and Athletic Training are highly recommended.

Bachelor of Science–Natural Science/Pre-Podiatry Track (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 49
Mathematics: MATH 121
Natural Science: CHEM 111-112
Social Science: PSYC 101
Synthesis: not required for three-year students who transfer to a professional school with an articulation agreement

Writing Intensive: writing-intensive course only required for three-year students who transfer to a professional school with an articulation agreement
Liberal Studies Electives: COSC 101, no courses with SCI prefix

Major: 41
Required Courses:

BIOL 111	Principles of Biology I	4cr
BIOL 112	Principles of Biology II	4cr
BIOL 150	Human Anatomy	3cr
BIOL 151	Human Physiology	4cr
BIOL 241	General Microbiology	3cr
BIOL 263	Genetics	3cr
CHEM 231	Organic Chemistry I	4cr
CHEM 232 *or* 351	Organic Chemistry II *or* Biochemistry	4cr
PHYS 111	Physics I Lecture	3cr
PHYS 121	Physics I Lab	1cr
PHYS 112	Physics II Lecture	3cr
PHYS 122	Physics II Lab	1cr
MATH 216	Probability and Statistics for Natural Sciences	4cr

Other Requirements: 0-6
Foreign Language Intermediate Level

Free Electives: (1) 0-30
Electives to meet minimum of 90 IUP cr and minimum of 24cr in Humanities and Social Sciences for admission to affiliated podiatry school after three years at IUP
Maximum credits for work at affiliated podiatry school 30cr

Total Degree Requirements: 120

(*) Accelerated three-year Temple University School of Podiatry program. A maximum of 30sh may be transferred after the first at Temple University School of Podiatry. Upon completion of the first year of studies at Temple University School of Podiatry, a transcript from Temple University is to be sent by the student to the dean of the College of Natural Sciences and Mathematics at IUP with a note requesting application materials for graduation.
(1) Student is to work with his/her advisor to select appropriate free electives for professional school. Additional courses in Biology are recommended.

Department of Physics

Website: *www.iup.edu/physics*
Kenneth E. Hershman, Chairperson; Abu El-Haija, Freda, Freeman, Karimi, Numan, Ramsey, Sherman, Sobolewski, Talwar, Wijekumar, Zhou; and professors emeriti Berry, Buckwalter, Fox, Gaggini, Matolyak, Matous, McNamara, Riban, Roberts, Waddell, Whilson

The goal of the Department of Physics is to prepare fully qualified individuals for productive careers in physics. Five degrees are offered within the College of Natural Sciences and Mathematics: the Bachelor of Science degree in Physics, the Bachelor of Arts degree in Physics, the Bachelor of Science degree in Applied Physics, the Associate in Applied Science in Electro-Optics, and the Associate in Science in Electro-Optics. The first three programs offer very good preparation for graduate study in physics or for research in industrial technology. The applied physics degree provides a strong technical background for work in solid-state electronics or electro-optics or for interdisciplinary research in the areas of computer science, chemistry, biology, and geology. A Bachelor of Science in Education with a major in Physics is also offered. A two-year pre-engineering program is offered in cooperation with Drexel University wherein students transfer to Drexel after two years. The department also offers a minor in Physics, as well as general science courses that satisfy the Natural Science requirements of the Liberal Studies program.

The two associate degrees in Electro-Optics, Associate in Applied Science in Electro-Optics (A.A.S.E.O.) and Associate in Science in Electro-Optics (A.S.E.O.), are designed to produce trained and skilled workers that will move into senior technician slots in the electro-optics industry, both locally and nationally. With the A.S.E.O. degree the student has a choice of either going directly to work or matriculating at the IUP main campus in the Electro-Optics track in Applied Physics. The two associate degrees, A.A.S.E.O and A.S.E.O., are offered at the IUP Armstrong Branch Campus.

Nanomanufacturing Technology Track

The Bachelor of Science degree in Applied Physics/Nanomanufacturing Technology Track (NMT) will help IUP students to take one semester of experiential learning in the high-tech field of semiconductor device manufacturing at the state-of-the-art facility at Penn State-University Park Campus. Nanofabrication industries using this technology are rapidly growing from biomedical applications to microelectronics. Graduates of the Applied Physics/NMT Track may enter careers in industry and education.

The students enrolled in Applied Physics/NMT Track will spend one semester (16 weeks) (18cr Capstone) in their Junior/Senior year at Penn State [in the fall, spring, or summer (12 weeks)] for hands-on experience in high-tech semiconductor device manufacturing field. Students must earn a GPA of at least 3.0 in the required Science and Mathematics courses to be considered for admission into the Capstone semester at Penn State.

Minor in Physics

To minor in Physics, a student must successfully complete 15 credits in Physics consisting of at least three courses at the 200 level or higher.

Cooperative Pre-Engineering (Chemical, Civil, Electrical, Materials, Mechanical) Program with Drexel University

Common to all pre-engineering programs are the following science and mathematics requirements: *PHYS 131-141, PHYS 132-142, PHYS 322, PHYS 342, *MATH 123, *MATH 124, MATH 171, MATH 241, *CHEM 111, *CHEM 112 (*or appropriate substitute).

Further requirements depend on the particular engineering program chosen. Complete information regarding a specific program may be obtained from the Physics Department. For information on the Cooperative Pre-Engineering program with the University of Pittsburgh, see the catalog section for Natural Science and the program outline for "B.S. degree in Natural Science/Pre-Engineering."

Bachelor of Arts–Physics

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 123
Natural Science: PHYS 131-141 and 132-142
Liberal Studies Electives: 4cr, MATH 124, no courses with PHYS prefix

Major: 28
Required Courses:

PHYS 131	Physics I-C Lecture	*cr (1)
PHYS 132	Physics II-C Lecture	*cr (1)
PHYS 141	Physics I-C Lab	*cr (1)
PHYS 142	Physics II-C Lab	*cr (1)
PHYS 222	Mechanics I	2cr
PHYS 223	Mechanics II	2cr
PHYS 231	Electronics	4cr
PHYS 322	Electricity and Magnetism I	2cr
PHYS 323	Electricity and Magnetism II	2cr
PHYS 331	Modern Physics	3cr
PHYS 350	Intermediate Experimental Physics I	3cr
PHYS 351	Intermediate Experimental Physics II	3cr
PHYS 473	Quantum Mechanics I	4cr

Controlled Electives:
One additional PHYS majors course 3cr

Other Requirements: 22-28
Additional Mathematics and Computer Science:
COSC 110 Problem Solving and Structured Programming 3cr
MATH 241 Differential Equations 3cr
MATH 342 Advanced Mathematics for Applications 4cr
Additional Natural Science Sequence 6cr
Additional Social or Natural Science Sequence (advanced) 6cr
Foreign Language Intermediate Level (2) 0-6cr

Free Electives: 14-20

Total Degree Requirements: 120

(1) Credits are counted in the Liberal Studies Natural Science requirement.
(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science–Physics

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 123
Natural Science: PHYS 131-141 and 132-142
Liberal Studies Electives: 4cr, MATH 124, no courses with PHYS prefix

Major: 37
Required Courses:
PHYS 131 Physics I-C Lecture *cr (1)
PHYS 132 Physics II-C Lecture *cr (1)
PHYS 141 Physics I-C Lab *cr (1)
PHYS 142 Physics II-C Lab *cr (1)
PHYS 222 Mechanics I 2cr
PHYS 223 Mechanics II 2cr
PHYS 231 Electronics 4cr
PHYS 242 Optics 3cr
PHYS 322 Electricity and Magnetism I 2cr
PHYS 323 Electricity and Magnetism II 2cr
PHYS 331 Modern Physics 3cr
PHYS 342 Thermal and Statistical Physics 3cr
PHYS 350 Intermediate Experimental Physics I 3cr
PHYS 351 Intermediate Experimental Physics II 3cr
PHYS 473 Quantum Mechanics I 4cr
Controlled Electives:
One course from the following: PHYS 472 or 490 3cr
One additional PHYS majors course 3cr

Other Requirements: 13-19
COSC 110 Problem Solving and Structured Programming 3cr
MATH 241 Differential Equations 3cr
MATH 342 Advanced Mathematics for Applications 4cr
One course from the following:
COSC 250, MATH 171, 363, 421, 423 3cr
Foreign Language Intermediate Level (2) 0-6cr

Free Electives: 14-20

Total Degree Requirements: 120

(1) Credits are counted in the Liberal Studies Natural Science requirement.
(2) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science–Applied Physics

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 123
Natural Science: CHEM 111-112 (replaced by CHEM 113-114 for Chemistry track)
Liberal Studies Electives: 4cr, MATH 124, no courses with PHYS prefix

Major: 28
Required Courses:
PHYS 131 Physics I-C Lecture 3cr
PHYS 132 Physics II-C Lecture 3cr
PHYS 141 Physics I-C Lab 1cr
PHYS 142 Physics II-C Lab 1cr
PHYS 222 Mechanics I 2cr
PHYS 231 Electronics 4cr
PHYS 242 Optics 3cr
PHYS 322 Electricity and Magnetism I 2cr
PHYS 331 Modern Physics 3cr
PHYS 352 Applied Physics Laboratory 3cr
PHYS 355 Computer Interfacing 3cr
Controlled Electives: According to Track 23-27
Solid State Electronics Track: COSC 300, MATH 342, PHYS 323, 342, 353, 432, 475, 476 24 cr
Computer Science Track: COSC 300, 310, 410, 450, PHYS 342, 353, 432, 475, 476 27 cr
Chemistry Track: CHEM 231, 232, 323, 341, 342, 343, MATH 342 24 cr
Biology Track: BIOL 111, 120, CHEM 231, 323, 351, Two biology electives from the following: BIOL 250, 263, 350, 401, 472 27 cr
Geology Track: GEOS 121, 122, 131, 132 Five Geoscience electives from the following: GEOS 220, 325, 326, 362, 412, 440, 481 23 cr

Other Requirements: 9-15
COSC 110 Problem Solving and Structured Programming 3cr
COSC 250 Introduction to Numerical Methods 3cr
MATH 241 Differential Equations 3cr
Foreign Language Intermediate Level (1) 0-6cr

Free Electives: 0-10

Total Degree Requirements: 120

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Science in Education–Physics (*)

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 55
Mathematics: MATH 123
Natural Science: CHEM 111-112
Social Science: PSYC 101
Liberal Studies Electives: 9cr, MATH 241, BIOL 103 or 114 or 115, GEOS 111 or 113, no courses with PHYS prefix

College: 29
Preprofessional Education Sequence:
COMM 103 Digital Instructional Technology 3cr
EDSP 102 Educational Psychology 3cr
Professional Education Sequence:
EDEX 301 Education of Students with Disabilities in Inclusive Secondary Settings 2cr
EDSP 477 Assessment of Student Learning: Design and Interpretation of Educational Measures 3cr

EDUC 242	Pre-student Teaching Clinical Experience I	1cr
EDUC 342	Pre-student Teaching Clinical Experience II	1cr
EDUC 441	Student Teaching	12cr
EDUC 442	School Law	1cr
EDUC 451	Teaching Science in the Secondary School	3cr

Major: 32

Required Courses:

PHYS 131	Physics I-C Lecture	3cr
PHYS 132	Physics II-C Lecture	3cr
PHYS 141	Physics I-C Lab	1cr
PHYS 142	Physics II-C Lab	1cr
PHYS 222	Mechanics I	2cr
PHYS 223	Mechanics II	2cr
PHYS 231	Electronics	4cr
PHYS 242	Optics	3cr
PHYS 322	Electricity and Magnetism I	2cr
PHYS 331	Modern Physics	3cr
PHYS 342	Thermal and Statistical Physics	3cr
PHYS 350	Intermediate Experimental Physics I	3cr

Controlled Electives:

Physics electives 2cr

Other Requirements: Additional Math Course: 4

MATH 124	Calculus II for Physics, Chemistry, and Mathematics	4cr

(#) Total Degree Requirements: 120

(*) See requirements leading to teacher certification, titled "Admission to Teacher Education," in the College of Education and Educational Technology section of this catalog.

(#) See advisory paragraph "Timely Completion of Degree Requirements" in the section on Requirements for Graduation.

Associate in Applied Science–Electro-Optics (A.A.S.E.O.)

Liberal Studies: following are the required Liberal Studies courses: 23-24

English Composition: ENGL 101
Mathematics: MATH 110 or 121
Humanities: 3cr
Natural Science: CHEM 111
Social Science: 3cr
Liberal Studies Electives: SAFE 145, COSC/BTED/IFMG 101 or COSC/BTED/COMM/IFMG 201

Major: 37

Required Courses:

EOPT 105	Computer Interfacing in Electro-Optics	3cr
EOPT 110	Geometric Optics	3cr
EOPT 120	Wave Optics	3cr
EOPT 125	Introduction to Electronics	4cr
EOPT 210	Detection and Measurement	3cr
EOPT 220	Introduction to Lasers	3cr
EOPT 240	Fiber Optics	3cr
EOPT 250	High-Vacuum Technology	3cr
EOPT 260	Industrial Applications of Lasers	3cr
PHYS 100	Prelude to Physics	3cr
PHYS 115	Physics I for Electro-Optics	3cr
PHYS 116	Physics II for Electro-Optics	3cr

Other Requirements: 3

MGMT 234	Introduction to Quality Control	3cr

Total Degree Requirements: 63-64

Associate in Science–Electro-Optics (A.S.E.O.)

Liberal Studies: The following are the required Liberal Studies courses: 30

English Composition: ENGL 101
Fine Arts: 3cr
Humanities: 3cr
Mathematics: MATH 121
Natural Science: CHEM 111
Social Science: 3cr
Health/Wellness: 3cr
Liberal Studies Electives: SAFE 145, COSC/BTED/IFMG 101 or COSC/BTED/COMM/IFMG 201

Major: 34

Required Courses:

EOPT 105	Computer Interfacing in Electro-Optics	3cr
EOPT 110	Geometric Optics	3cr
EOPT 120	Wave Optics	3cr
EOPT 125	Introduction to Electronics	4cr
PHYS 100	Prelude to Physics	3cr
PHYS 115	Physics I for Electro-Optics	3cr
PHYS 116	Physics II for Electro-Optics	3cr
Choose two of the following three courses:		6cr
EOPT 210	Detection and Measurement	
EOPT 220	Introduction to Lasers	
MGMT 234	Introduction to Quality Control	
Choose two of the following three courses:		6cr
EOPT 240	Fiber Optics	
EOPT 250	High-Vacuum Technology	
EOPT 260	Industrial Applications of Lasers	

Total Degree Requirements: 64

Bachelor of Science–Applied Physics/Electro-Optics Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50

Mathematics: MATH 121
Natural Science: CHEM 111-112
Liberal Studies Electives: 4cr, MATH 122, no course with PHYS prefix

Major: 44

Required Courses:

EOPT 105	Computer Interfacing in Electro-Optics	3cr
EOPT 110	Geometric Optics	3cr
EOPT 120	Wave Optics	3cr
EOPT 125	Introduction to Electronics	4cr
PHYS 100	Prelude to Physics	3cr
PHYS 115	Physics I for Electro-Optics	3cr
PHYS 116	Physics II for Electro-Optics	3cr
PHYS 222	Mechanics I	2cr
PHYS 322	Electricity and Magnetism I	2cr
PHYS 331	Modern Physics	3cr
PHYS 350	Intermediate Experimental Physics I	3cr
Choose two of the following three courses:		6cr
EOPT 210	Detection and Measurement	
EOPT 220	Introduction to Lasers	
MGMT 234	Introduction to Quality Control	
Choose two of the following three courses:		6cr
EOPT 240	Fiber Optics	
EOPT 250	High-Vacuum Technology	
EOPT 260	Industrial Applications of Lasers	

Other Requirements: 15-21

COSC/BTED/IFMG 101 *or* COSC/BTED/COMM/IFMG 201		3cr
COSC 110	Problem Solving and Structured Programming	3cr

COSC 250	Introduction to Numerical Methods	3cr
MATH 241	Differential Equations	3cr
SAFE 145	Workplace Safety Today and Tomorrow	3cr
Foreign Language-Intermediate Level		0-6cr

Free Electives: 5-11

Total Degree Requirements: 120

Bachelor of Science–Applied Physics/Nanomanufacturing Technology Track

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 50
Mathematics: MATH 123
Natural Science: CHEM 111-112
Liberal Studies Electives: 4cr, MATH 124, no course with PHYS prefix

Major: 28
Required Courses:

PHYS 131	Physics I-C Lecture	3cr
PHYS 132	Physics II-C Lecture	3cr
PHYS 141	Physics I-C Lab	1cr
PHYS 142	Physics II-C Lab	1cr
PHYS 222	Mechanics I	2cr
PHYS 231	Electronics	4cr
PHYS 242	Optics	3cr
PHYS 322	Electricity & Magnetism I	2cr
PHYS 331	Modern Physics	3cr
PHYS 352	Applied Physics Laboratory	3cr
PHYS 355	Computer Interfacing	3cr

Controlled Electives: 24
Nanomanufacturing Technology Track (18cr PSU Capstone)

NMTT 311	Materials, Safety, and Equipment Overview for Nanofabrication	3cr
NMTT 312	Basic Nanofabrication Process	3cr
NMTT 313	Thin Films in Nanofabrication	3cr
NMTT 314	Advanced Lithography and Dielectrics for Nanofabrication	3cr
NMTT 315	Materials Modification in Nanofabrication	3cr
NMTT 316	Characterization, Packaging, and Testing of Nanofabricated Structures	3cr
PHYS 475	Physics of Semiconductor Devices I	3cr
PHYS 476	Physics of Semiconductor Devices II	3cr

Other Requirements: 9-15

COSC 110	Problem Solving and Structured Programming	3cr
COSC 250	Introduction to Numerical Methods	3cr
MATH 241	Differential Equations	3cr
Foreign Language Intermediate Level		0-6cr

Free Electives: 3-9

Total Degree Requirements: 120

Department of Psychology

Website: *www.iup.edu/psychology*
Mary Lou Zanich, Chairperson; Berman, Federoff, Gallen, Goodwin, Husenits, Kaniasty, LaPorte, Luo, Marquette, McHugh, Meil, Pavloski, Raeff, Robertson, Roehrich, Ruffner, Sadler, Sherburne, Stires, Thornton, Zimny; and professors emeriti Grover, Magee, Patton, Rich, Rittle, Schneider, Sussmann, Walz

The program in psychology leads to a Bachelor of Arts degree and is designed to give the student an understanding of the methods and major findings in the science of behavior and mental processes. The major offers the background required for graduate work in psychology and also preparation for such related fields as social work, personal work, advertising, medicine, law, and theology. The department also offers a minor in psychology.

A track in applied psychology offers students a firm background in the science of psychology, preparation for nonclinical applications of psychology to the solution of human and social problems in private and public organizations, and preparation for graduate study in the applied area of psychology. The core for the track is the same as for the psychology major; coursework in applied psychology is provided by enrolling in appropriate psychology electives and a carefully designed concentration of courses outside the department

An honors program has been developed to enrich the education of qualified psychology majors and to assist students in gaining entrance to graduate school. The core for the program is the same as for the psychology major; special seminar classes and independent research experiences culminating in an Honors Thesis are required.

All psychology majors are required to take a minor or a concentration in another discipline.

Bachelor of Arts–Psychology

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 48
Mathematics: MATH 217
Natural Science: BIOL 103-104 recommended
Social Science: PSYC 101
Liberal Studies Electives: 3cr, no course with PSYC prefix

Major: 34-39
Required Courses:

PSYC 290	Research Design and Analysis I	4cr
PSYC 291	Research Design and Analysis II	4cr

Controlled Electives: A minimum of one course from each of the following six core areas: (1)

A. Developmental Psychology: PSYC 310, 311, 312, 315	3-4cr (2)
B. Individual Differences: PSYC 320, 321, 325	3-4cr
C. Social/Environmental: PSYC 330, 331, 335	3-4cr (3)
D. Cognition/Learning: PSYC 341, 342, 345	3-4cr (4)
E. Biological Bases of Behavior: PSYC 350, 352, 355, 356, 359	3-4cr (5)
F. Metatheoretical Perspectives in Psychology: PSYC 410, 411	3cr
Other PSYC electives beyond PSYC 101	6-8cr

Other Requirements: 15-21

Foreign Language Intermediate Level	0-6cr (6)
Minor/concentration	15cr

Free Electives: 12-23

Total Degree Requirements: 120

(1) At least two must be content-based laboratory courses.
(2) Credit toward the major will be given for only one of PSYC 310, 311, or 315.
(3) Credit toward the major will be given for only one of PSYC 330 or 335.
(4) Credit toward the major will be given for only one of PSYC 342 or 345.
(5) Credit toward the major will be given for only one of PSYC 350 or 356.
(6) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts–Psychology/Applied Psychology Track

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Mathematics: MATH 217
Natural Science: BIOL 103 104 recommended
Social Science: ECON 121, PSYC 101
Liberal Studies Electives: 3cr, no course with PSYC prefix

Major: 38-41
Required Courses:

PSYC 290	Research Design and Analysis I	4cr
PSYC 291	Research Design and Analysis II	4cr
PSYC 421	Psychology of Work	3cr
PSYC 425	Experimental Organizational Psychology	4cr
PSYC 493	Psychological Practicum	3cr (1)

Controlled Electives: A minimum of one course from each of the following six core areas: (2)

A. Developmental Psychology: PSYC 310, 311, 312, 315	3-4cr (3)
B. Individual Differences: PSYC 320, 321, 325	3-4cr
C. Social/Environmental: PSYC 330, 331, 335	3-4cr (4)
D. Cognition/Learning: PSYC 341, 342, 345	3-4cr (5)
E. Biological Bases of Behavior: PSYC 350, 352, 355, 356, 359	3-4cr (6)
F. Metatheoretical Perspectives in Psychology: PSYC 410, 411	3cr

Other Requirements: 15-21
Outside Concentration:

ECON 122	Principles of Microeconomics	3cr
ECON 330	Labor Economics	3cr
ILR 480	Principles and Practices of Collective Bargaining	3cr
Two courses, as approved by advisor		6cr (7)
Foreign Language Intermediate Level		0-6cr (8)

Free Electives: 10-19

Total Degree Requirements: 120

(1) Department recommends at least 6cr of PSYC 493.
(2) At least two must be content-based laboratory courses.
(3) Credit toward the major will be given for only one of PSYC 310, 311, or 315.
(4) Credit toward the major will be given for only one of PSYC 330 or 335.
(5) Credit toward the major will be given for only one of PSYC 342 or 345.
(6) Credit toward the major will be given for only one of PSYC 350 or 356.
(7) Department highly recommends PSYC 424 and recommends one course from business or another applied area.
(8) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts–Psychology/Honors Program in Psychology

Liberal Studies: As outlined in Liberal Studies section 48
with the following specifications:
Mathematics: MATH 217
Natural Science: BIOL 103-104 recommended
Social Science: PSYC 101
Liberal Studies Electives: 3cr, no course with PSYC prefix

Major: 40-43
Required Courses:

PSYC 290	Research Design and Analysis I	4cr
PSYC 291	Research Design and Analysis II	4cr
PSYC 480	Honors Seminar in Psychology	6cr (1)
PSYC 483	Honors Thesis	6cr (2)

Controlled Electives: A minimum of one course from each of the following six core areas: (3)

A. Developmental Psychology: PSYC 310, 311, 312, 315	3-4cr (4)
B. Individual Differences: PSYC 320, 321, 325	3-4cr
C. Social/Environmental: PSYC 330, 331, 335	3-4cr (5)
D. Cognition/Learning: PSYC 341, 342, 345	3-4cr (6)
E. Biological Bases of Behavior: PSYC 350, 352, 355, 356, 359	3-4cr (7)
F. Metatheoretical Perspectives in Psychology: PSYC 410, 411	3cr

Other Requirements: 15-21
Foreign Language Intermediate Level 0-6cr (8)
Minor/concentration 15cr

Free Electives: 8-17

Total Degree Requirements: 120

(1) Students will enroll in PSYC 480 for 3cr in each of two semesters.
(2) Students will enroll in PSYC 483 for 3cr in each of two semesters.
(3) At least two must be content-based laboratory courses.
(4) Credit toward the major will be given for only one of PSYC 310, 311, or 315.
(5) Credit toward the major will be given for only one of PSYC 330 or 335.
(6) Credit toward the major will be given for only one of PSYC 342 or 345.
(7) Credit toward the major will be given for only one of PSYC 350 or 356.
(8) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Minor–Psychology **18-19**

Required Courses:

PSYC 101	General Psychology (1)	3cr
PSYC 280	Psychological Inquiry *or*	3cr
PSYC 290	Research Design and Analysis I (2)	4cr
Four other PSYC electives beyond PSYC 101 (3, 4)		12cr

(1) Meets Liberal Studies requirement.
(2) Prerequisite: MATH 217.
(3) Selected in consultation with the director of the undergraduate program.
(4) Credit toward minor will be given for only one of PSYC 310, 311, or 315.

Minor–Psychological Science **17-18**

Required Courses:

PSYC 101	General Psychology	3cr (1)
PSYC 290	Research Design and Analysis I	4cr (2)
One course from core areas A, B, or C		3-4cr (3)
One course from core areas D or E		3-4cr (3)
One PSYC elective 3-4cr		

(1) Meets Liberal Studies requirement.
(2) Prerequisite: MATH 217.
(3) At least one course must be a content-based laboratory course.

The School of Continuing Education

Nicholas E. Kolb, Associate Provost and Dean
George E. Rogers, Assistant Dean
Website: *www.iup.edu/continuing-ed*

The mission of the School of Continuing Education is to serve the lifelong educational needs of nontraditional students, working adults, professional organizations, local and state agencies, and the citizens of the commonwealth by providing access to the academic and human resources of IUP.

The School of Continuing Education was created by the IUP Board of Trustees in May, 1966. Today, the school comprises Credit Programs, Conferences and Noncredit Programs, and the Vocational Personnel Preparation Center. The school is characterized by its commitment to academic excellence and high-quality programs. The school maintains a dynamic environment which fosters innovation and experimentation in order to improve programs continually and respond to the ever-changing needs of society.

Credit Programs

George E. Rogers, Assistant Dean

The Credit Programs area offers a variety of opportunities for the adult and nontraditional learner to access the academic resources of IUP on a part-time basis. Courses may be selected from day or evening offerings.

Associate of Arts–General Studies

The Associate of Arts degree in General Studies is designed for the nontraditional or adult learner who seeks to acquire a broad base of knowledge in the liberal arts. This program consists of the core of Liberal Studies requirements of the bachelor's degree programs plus 10 credits of electives. The student is encouraged to develop a plan of study with his or her academic advisor which will bring focus to his or her interest in a particular area or subject. No more that 30 credits may be transferred into this degree program from other colleges.

Full-time students admitted to the Associate of Arts degree program through the Admissions Office will be advised by personnel in the Learning Enhancement Center during their freshman year at IUP.

Associate of Arts–General Studies

Liberal Studies: As outlined in the Liberal Studies section with the following specifications:		50
Fine Arts	3cr	
Health and Wellness/ROTC	3cr	
Humanities	9cr	
Learning Skills	10cr	
Natural Science	7cr	
Social Science	9cr	
Controlled Liberal Studies Electives	9cr	
Free Electives:		10
Total Degree Requirements:		60

Bachelor of Science–General Studies

The Bachelor of Science degree in General Studies is designed for the mature adult student, who under faculty advisement can explore and develop an individualized plan of study which does not approach any existing IUP major. This individually designed plan of study must be based on a specific theme which incorporates basic and applied coursework within a theoretical framework culminating in a senior-year independent research project. At the time of application for degree candidacy through the School of Continuing Education or transfer from another major, the student must submit a plan of study which contains the proposed theme, rationale, and courses needed to satisfy the Special Interest Area. A faculty member will be assigned to assist with the plan of study prior to acceptance to degree candidacy. Students other than School of Continuing Education students must have completed 45cr before a request for transfer will be honored.

The student's plan of study, which is designed to fulfill the Special Interest Area, must be approved by the student's advisor and the assistant dean of the School of Continuing Education.

Bachelor of Science–General Studies

Liberal Studies: As outlined in Liberal Studies section — 53

General Area of Study: (1, 2) — 24
Choose at least 6cr from three of the four areas listed below. At least 12cr must be 300-level or above. Courses should relate to theme developed in Special Interest Area.
Arts, Letters, and Culture Area: Art, Communications Media, English, French, German, Journalism, Music, Philosophy, Religious Studies, Spanish, Theater
Human Behavior and Development Area: Anthropology, Education, Health, Family and Consumer Sciences, Psychology, Sociology
Science, Mathematics, and Technology Area: Biology, Chemistry, Computer Science, Geoscience, Mathematics, Physics, and relevant courses in education
Social and Political Systems Area: Economics, Education, Geography and Regional Planning, History, Industrial and Labor Relations, Political Science

Special Interest Area: (3) — 21
With approval of advisor, student may select, from any department listed above, courses which focus on a particular need or interest. At least 12cr must be 300-level or above. The program must include either one research course which provides opportunities for extensive writing or an independent study project. Some courses will not be available to General Studies majors.

Electives: — 22
At least 6cr must be 300-level or above

Total Degree Requirements: — 120

(1) Individually planned theme may not duplicate any existing degree programs which are otherwise available at IUP, nor may they be used to circumvent specific requirements within an existing major.
(2) No more than 30cr taken in any one department will count toward graduation.
(3) In the application of university policies, the Special Interest Area is considered as the major. Specifically, in order to graduate, students must be in academic good standing and attain a 2.0 GPA in the Special Interest Area.

Part-time Studies Program (Nondegree)

The Part-time Studies Program is designed to offer the adult and nontraditional learner the opportunity to begin or renew a college education at IUP. Through this program an individual may enroll in undergraduate credit courses to pursue personal interests, acquire new skills, or work toward formal admission to degree candidacy. Credit earned in this program may be applied to a degree upon formal admission to an IUP degree program. See the Admissions section of this catalog for application requirements.

A student in the Part-time Studies Program is limited to a semester enrollment of no more than 11 credits and must apply for formal admission to degree candidacy must apply for formal admission to a degree program before 30 IUP credits have been earned. Applications for degree candidacy must be filed by the midterm point of the fall or spring semester preceding candidacy. Specific requirements for GPA and IUP credit vary by degree program. The minimum credit criteria to apply for consideration for degree candidacy are as follows:

High School Diploma or GED	15 IUP credits	2.0 GPA
Veteran (DD-214 required)	9 IUP credits	2.0 GPA
Transfer (with 12 or more credits)	9 IUP credits	2.0 GPA
Transfer (with 11 or less credits)	15 IUP credits	2.0 GPA

Postbaccalaureate Program

The Postbaccalaureate Program is designed to provide access to undergraduate courses to individuals who have an earned baccalaureate degree. Students may be seeking a second bachelor's degree, additional teacher certification, or personal enrichment. Postbaccalaureate students may attend IUP on a part-time or full-time basis. Please see the Admissions section of this catalog for application information.

Program for Visiting High School Students

IUP permits the exceptional high school student to preview university life and earn regular college credit on a limited nondegree basis. The student must have completed the sophomore year with a minimum "B" average and have the written support of the high school principal or guidance counselor. The parameters of the student's enrollment are defined in consultation with the appropriate high school official and are limited to a maximum of 9 credits per semester. For further information, contact us at 724-357-2292.

Center for Vocational Personnel Preparation

Vocational-Technical Professional Studies

Website: *www.iup.edu/voced*
Karen S. Rivosecchi and Donald C. Gamble, Co-directors; Boyd, Debow, Dulecki, Monaco, Spewock, Sylves

The Vocational-Technical Professional Studies program offers undergraduate curricula that prepare preservice teachers, in-service teachers, supervisors, and administrators in vocational-technical education. Students enrolling may specialize in an area related to interest and/or previous work experience. Programs may lead to either a Bachelor of Science in Education degree with certification or to professional certification only. Program graduates have a broad range of employment opportunities as teachers/trainers in secondary schools, vocational-technical schools, postsecondary schools, and business and industry.

Certification to teach vocational-technical education in the commonwealth's secondary schools is issued to individuals who meet statutory requirements, demonstrate occupational/technical proficiency on a nationally standardized occupational competency examination, and complete 60 credits of the Pennsylvania Department of Education's approved university program. In the IUP program, a plan of studies will be tailored to each student's unique background (i.e., electrical, electronics, data processing, drafting, welding, dental, etc.) and professional needs.

Certification to serve as a cooperative education teacher-coordinator in the commonwealth's secondary schools can be earned by completing a program of studies tailored to each student's individual background and professional needs. The program prepares individuals for managing industrial cooperative training and school-to-work transitional experiences. For persons holding a valid Pennsylvania Instructional Certificate, the program of studies will be individualized based upon educational credits earned.

Each program offered by the Center for Vocational Personnel Preparation requires completion of the following credits:

Bachelor of Science in Education	120cr
Cooperative Education Teacher/Coordinator Certificate	15cr
Vocational Technical Education Certificate	60-62cr

Bachelor of Science in Education–Vocational-Technical Education

Liberal Studies: As outlined in Liberal Studies section with the following specifications: 51
Mathematics: 3cr, MATH 101 or higher-level MATH course
Social Science: PSYC 101
Liberal Studies Electives: 6cr, no courses with VOED prefix

College: 6
Professional Educational Sequence:
COMM 103 Digital Instructional Technology *or*
FDED 102 American Education in Theory and Practice 3cr
EDSP 102 Educational Psychology 3cr

Major: 30
Required Courses:
VOED 100 Preparation of the Vocational Professional I 15cr
VOED 400 Preparation of the Vocational Professional II 15cr

Other Requirements: 27
Vocational Technical:
ENGL 310 Public Speaking 3cr
VOED 450 Technical Preparation of the Vocational Professional 24cr

Free Electives: 6

Total Degree Requirements: 120

Certificate–Vocational-Technical Education

Liberal Studies: As follows: 21-23
English: ENGL 101
Fine Arts: one course from list
Humanities: one course from list
Mathematics: MATH 101 or higher-level MATH course
Natural Science: one course, lab or non-lab
Social Science: PSYC 101
Liberal Studies Electives: one course, no course with VOED prefix

College: 6
Professional Educational Sequence:
EDSP 102 Educational Psychology 3cr
FDED 102 American Education in Theory and Practice *or* 3cr
COMM 103 Digital Instructional Technology

Major: 33
Required Courses:
ENGL 310 Public Speaking 3cr
VOED 100 Preparation of the Vocational Professional I 15cr
VOED 400 Preparation of the Vocational Professional II 15cr

Total Certification Requirements: 60-62

Certificate as Secondary School Cooperative Education Teacher/Coordinator

Existing Pennsylvania teaching certificate (Vocational Instructional I or II certificate or Instructional I or II certificate)

Required Courses:

VOED 402	Special Topics in Vocational Pedagogical Preparation	6-15cr

Total Certification Requirements: 15 (1)

(1) Students may be exempt from some credit requirements based upon proof of previous coursework and demonstration of specific competencies.

Conferences and Noncredit Programs

George E. Rogers, Assistant Dean

The School of Continuing Education offers a wide variety of noncredit programs which meet business, industry, and community needs in the areas of workforce training and development, professional development, personal enrichment, and public service.

Community-University Studies

Noncredit courses and workshops are offered in Indiana throughout the year. Personal growth and enrichment topics include creative leisure, self-improvement, fitness and dance, culinary arts, languages, outdoor pursuits, and Great Decisions. There are no exams, no grades, and the instructors are knowledgeable and enthusiastic about introducing others to their areas of expertise. Computer literacy and professional development courses are also available. In addition, the Academy of Living and Learning, a collaborative effort between the School of Continuing Education and Calvary Presbyterian Church of Indiana, offers trips, lectures, and discussions on a wide variety of subject matter. Held during the day, all classes are open to interested community people and are provided as a service to the community.

Special Programs

The education and training needs of health and human service professionals are met through course offerings, one-day workshops, seminars, and conferences. In addition, Youth Experience in Summer provides educational enrichment for youth in elementary grades.

Conferences

The professional staff of the Office of Conferences assists in planning and implementing experiences for a variety of professional, subject matter-related, and general interest groups. Assistance in budgeting, marketing, designing of brochures, on-site registration, and evaluation are examples of services available to our clients. Coordination of off-campus events is also a service available to conference planners.

Course Descriptions

Credit designation at right of title is expressed in (c) class hours per week, (l) lab or (d) discussion section hours per week, and (cr) credits of credit per semester.

ACCT: Accounting
Department of Accounting
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

ACCT 201 Accounting Principles I **3c-0l-3cr**
Prerequisite: Sophomore status (except for Accounting majors)
Introduces the basic financial accounting concepts, principles, and practices applied to the preparation and interpretation of the major financial statements. Includes complete coverage of the accounting cycle which is designed to satisfy the information requirements of external decision makers. Topics covered are asset valuation, liability measurement, income determination, and equity activities. Integrated throughout is a discussion of ethical issues and considerations.

ACCT 202 Accounting Principles II **3c-0l-3cr**
Prerequisite: ACCT 201
An introduction to traditional managerial accounting concepts and procedures utilized in the organization and processing of accounting information for management decision-making purposes. Topics include managerial accounting and the business environment, cost terms and concepts, cost systems, cost behavior, and cost-volume-profit analysis. Also covers the master budget, standard costing and variance analysis, performance evaluation, responsibility accounting, relevant cost analysis, and decision making.

ACCT 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ACCT 299 Cooperative Education I **0c-0l-2cr**
Prerequisites: Completion of 55cr with a minimum 2.0 GPA including a grade of C or better in ACCT 201, ACCT 202, and IFMG 241, and approval of the cooperative advisor
The initial experience in a program designed to combine classroom theory with practical application through job-related experiences. Students are actively employed in the accounting area in business, industry, government, and a variety of organizations and agencies with a work focus which relates to their academic training and career objectives in accounting. The student is expected to complete subsequently ACCT 399 or an internship.

ACCT 300 Managerial Accounting **3c-0l-3cr**
Prerequisite: ACCT 202 (not open to Accounting majors)
Emphasizes the use of accounting information in performing the managerial functions of planning, control, decision making, and performance evaluation. Note: Accounting majors will not be granted degree credit for ACCT 300.

ACCT 303 Financial System Analysis **3c-0l-3cr**
Prerequisite: Grade of C or better in ACCT 202
Focuses on preparation and analysis of financial information for business performance and financial condition decisions. Financial accounting software is integrated throughout the course to demonstrate financial accounting system design. Basic accounting standards, concepts, and current issues underlying financial reporting are reviewed.

ACCT 304 Intermediate Accounting I **3c-0l-3cr**
Prerequisite: Grade of C or better in ACCT 303
Primarily focuses on financial reporting for asset wealth typically found in business environments. Coverage includes recognition and measurement of such assets as cash, receivables, investments, inventories, plant assets, and intangible assets. Present value concepts in financial reporting are also emphasized. (Offered as ACCT 301 prior to 2002-03)

ACCT 305 Intermediate Accounting II **3c-0l-3cr**
Prerequisite: Grade of C or better in ACCT 304
Concentrates on financial reporting of creditor and investor claims on business assets in the form of liabilities and equity. Specialized financial reporting topics such as earnings per share, stock options, income tax, pension, and lease accounting are also covered. (Offered as ACCT 302 prior to 2002-03)

ACCT 311 Cost Accounting **3c-0l-3cr**
Prerequisite: Grade of C or better in ACCT 202
Studies the aggregation and use of financial information for internal management decision-making. Discussions concentrate on cost management system design, cost estimation methods for budget preparation and achievement, cost accumulation methods for manufacturing and service organizations, inventory control procedures, transfer pricing administration, and managerial performance evaluation techniques.

ACCT 321 Federal Tax I **3c-0l-3cr**
Prerequisite: Grade of C or better in ACCT 202
Introduces the fundamental concepts of federal taxation, with special emphasis on individuals. Creates an awareness and recognition of the tax consequences involved in financial decision-making, with special emphasis on use of professional tax software and Internet resources.

ACCT 399 Cooperative Education II **0c-0l-3cr**
Prerequisites: ACCT 299, completion of 85cr with a cumulative 2.0 GPA, a 2.3 GPA in ACCT 304, 305, and 311 with a grade of C or better in each course, and approval of the cooperative advisor
The subsequent course in cooperative education is designed to combine classroom theory with practical application through job-related experiences. Students are actively employed in the accounting area in business, industry, government, and a variety of organizations and agencies with a work focus which relates to their academic training and career objectives in accounting.

ACCT 401 Advanced Accounting **3c-0l-3cr**
Prerequisite: ACCT 305
A study of accounting issues of specialized nature including partnerships, organization and liquidation, agency and branch accounting, accounting for business combinations, preparation of consolidated financial statements, accounting for government and not-for-profit entities, accounting for estates and trusts, and receivership accounting.

ACCT 412 Advanced Cost Accounting **3c-0l-3cr**
Prerequisite: Grade of C or better in ACCT 311
A study of budgets, standard costs, direct and absorption costing, analysis of cost variances, and extensive analysis of various cost control and profit planning programs.

ACCT 422 Federal Tax II **3c-0l-3cr**
Prerequisite: ACCT 321
Introduces the fundamental concepts of federal taxation of corporations, partnerships, estates, and gift transactions. Creates an awareness and recognition of the tax consequences involved in financial decision-making, with special emphasis on use of professional tax software, the Internal Revenue Code and Regulations, and Internet research.

ACCT 431 Auditing **3c-0l-3cr**
Prerequisite: ACCT 304
A study of auditing theory and practical application of auditing standards and procedures to the review, testing, and evaluation of accounting controls and to the verification of transactions and balances to express an opinion in an audit report on the fairness of financial statements' presentation.

ACCT 432 Forensic and Internal Auditing 3c-01-3cr
Prerequisite: ACCT 431
Introduces forensic auditing in fraudulent financial reporting and employee theft. Also covers the foundation of internal auditing and operational audits performed by internal auditors.

ACCT 441 Accounting for Government and Nonprofit Organizations 3c-01-3cr
Prerequisite: ACCT 305
Presents the views of authoritative professional organizations as to desirable standards of accounting and reporting for governmental and nonprofit entities. Topics include budgeting and budgetary accounts, accounting for various funds, the general fixed assets group of accounts, the financial reporting process, and application of the principles of fund accounting in specific areas.

ACCT 451 Seminar in Accounting Standards 3c-01-3cr
Prerequisite: ACCT 305
A study of professional standards having authoritative support in the field of accounting. APB opinions, FASB interpretations, and SEC Accounting Series Releases are discussed.

ACCT 461 Accounting Systems 3c-01-3cr
Prerequisites: ACCT 305, 311, IFMG 300
A study of concepts, principles, and procedures of accounting system design, installation, implementation, auditing, and maintenance in relating to system objectives, information requirements, constraints, system elements, and considerations on a computerized basis.

ACCT 471 International Accounting 3c-01-3cr
Prerequisite: ACCT 311 for Accounting majors or ACCT 300 for non-Accounting majors
A comparative study of the effects of differences in cultural and business philosophies on national and international accounting policies. Specific financial accounting controversies, such as accounting for transactions involving foreign currency exchanges, are discussed. International management accounting topics include international transfer pricing policies, performance evaluations of multinational managers and divisions, and management information systems. International aspects of financial planning, auditing, and taxation practices are also reviewed.

ACCT 481 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

ACCT 482 Independent Study var-1-3cr
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ACCT 488 Internship in Accounting (Industrial and Government) 6cr
Prerequisites: Consent of department chairperson and dean, Eberly College of Business and Information Technology; cumulative 2.75 GPA and 3.0 GPA in accounting courses
Practical experiences, generally totaling 400 hours, in an industrial or government accounting setting.

ACCT 493 Internship in Accounting (Public) 6cr
Prerequisites: Consent of department chairperson and dean, Eberly College of Business and Information Technology; 3.00 cumulative GPA and 3.00 GPA in Accounting courses
Practical experiences, generally totaling 400 hours, with a public accounting firm.

ADVT: Advising and Testing
Advising and Testing Center
Division of Student Affairs

ADVT 170 Career Exploration 1c-01-1cr
Introduces the theoretical and practical framework with which to explore careers compatible with overall academic skills, aptitudes, and life goals. Examines the world of work, assess their interests and abilities, and make realistic decisions on academic majors and careers. Notes: (1) Certain sections of this course will be restricted to specific enrollment groups. (2) Offered as ED 170 prior to 1997-98. (3) Cross-listed as LRNC 170. These courses may be substituted for each other and may be used interchangeably for D or F repeats but may not be counted for duplicate credit.

ANTH: Anthropology
Department of Anthropology
College of Humanities and Social Sciences

ANTH 110 Contemporary Anthropology 3c-01-3cr
An introduction to the nature of anthropological inquiry. By using the anthropological perspective, current relevant topics are discussed. Topics could include, but are not limited to, changing myths and rituals, legal anthropology, cross-cultural aspects of aging, gender roles, evolutionism and creationism, cultural extinction, and world hunger.

ANTH 211 Cultural Anthropology 3c-01-3cr
Explores the nature of culture as a human survival technique. Provides a framework for appreciation and understanding of cultural differences and similarities in human societies, past and present.

ANTH 213 World Archaeology 3c-01-3cr
A survey of the prehistory of Western and non-Western cultures with an emphasis on the development of technology and on the evolution of adaptive strategies with particular attention to the origins of agriculture. Exposes the students to the diversity of past cultural systems and to the methodological and theoretical questions of concern to archaeologists.

ANTH 222 Biological Anthropology 3c-01-3cr
An introduction to the goals and techniques of biological anthropology with an emphasis on primatology, paleoanthropology, genetics, and osteology. Provides a basis for evaluating the role of biology in human behavior.

ANTH 233 Language and Culture 3c-01-3cr
Focuses on social and cultural functions of language. Particular emphasis given to problems in anthropology with respect to non-Western languages.

ANTH 244 Basic Archaeology 3c-01-3cr
An introduction to the goals and methods of anthropological archaeology with particular attention to the analysis of cultural chronology, past lifeways, and cultural process. Provides laboratory experience with artifacts and other archaeological data.

ANTH 271 Cultural Area Studies: Africa 3c-01-3cr
Explores the cultural diversity of the continent of Africa. The first unit examines the historical processes which shape modern society, including the formation of indigenous African empires, the evidence for trade routes, slave trading, and colonialism. The second unit examines the nature of African traditional societies, including analyses of forager and agricultural groups. The last unit covers issues of contemporary development in Africa such as famine and agricultural policy, the status of women in economic development, and apartheid. Reading includes ethnographic and historical accounts of African society as well as selections by African writers on the issues of contemporary society. (Also offered as SOC 271; may not be taken for duplicate credit.)

ANTH 272 Cultural Area Studies: China 3c-01-3sh
Assists in developing an understanding of contemporary China. While the course begins with prehistoric and historic aspects of China, the focus is on contemporary issues presented in the context of anthropological theory. Specific Chinese cultural components investigated include values, attitudes,

norms, social organization, linguistics, and folklore. (Also offered as SOC 272; may not be taken for duplicate credit.)

ANTH 273 Cultural Area Studies: Southeast Asia **3c-0l-3cr**
An introduction to the peoples and cultures of Southeast Asia. Prehistory and the development of indigenous states in the area and analysis of impact of world religions, such as Islam, and Western colonialism. Also examines modern hunter-gatherer and farming societies and discusses contemporary issues in social and economic change, including the Green Revolution, tropical deforestation, the struggle of ethnic minority tribal peoples, and the plight of Indochinese refugees. (Also offered as SOC 273; may not be taken for duplicate credit.)

ANTH 274 Cultural Area Studies: Latin America **3c-0l-3cr**
An introduction to the peoples and cultures of Latin America. Focuses on the prehistory and development of pre-Columbian complex societies in Mesoamerica and the Andes and analyzes the impact of European colonialism on these major regions. Also examines contemporary issues, such as civil wars, economic development, rural-urban migrations, and migration and immigration of Latin American peoples into the United States. (Also offered as SOC 274; may not be taken for duplicate credit.)

ANTH 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ANTH 286 Marriage, Kinship, and the Family **3c-0l-3cr**
A sociological and anthropological study of patterns of marriage, kinship, and family life, emphasizing the relationship between family patterns and other social institutions. Topics include the family and marriage in historical and comparative perspective, worldwide patterns of gender stratification, incest and incest avoidance, class and race contexts of family patterns, mate selection and love, parenthood and child rearing, domestic and sexual violence, alternative family lifestyles, and the current crisis and possible future of the family. Intended for a broad audience but also open to sociology and anthropology majors and minors. (Also offered as SOC 286; may not be taken for duplicate credit.)

ANTH 314 Native Americans **3c-0l-3cr**
A survey of culture history and culture area characteristics of the Indians of North America. Detailed study of representative groups related to historical, functional, and ecological concepts.

ANTH 315 North American Archaeology **3c-0l-3cr**
Prerequisite: ANTH 110 or 244 or permission of the instructor
A survey of North American prehistory with an emphasis on cultural ecology and technology. Attention is given to all geographic areas north of Mexico, but the focus is on the Eastern Woodlands.

ANTH 316 Anthropology of Religion **3c-0l-3cr**
Prerequisite: ANTH 110 or 211
Explores nature, function, and universal characteristics of religion in human society by utilizing cross-cultural approach. Theories concerning religious phenomena serve as topics for discussion.

ANTH 317 Archaeology Research Design and Analysis **3c-0l-3cr**
Prerequisite: ANTH 244 or permission of the instructor
An introduction to theory and method in archaeological research through lecture, laboratory exercises, and individual projects. Provides students with actual experience analyzing and interpreting archaeological data sets.

ANTH 318 Museum Methods **3c-0l-3cr**
Prerequisite: ANTH 110 or 211 or 244
Lecture and laboratory course surveying the role of museums as social and educational institutions, types of museums, museum administration, and museum architecture. Procedures for collection, curation, preservation, and storage of anthropological and natural history specimens examined.

ANTH 320 Archaeological Field School **var-6cr**
Prerequisites: ANTH 110, 244, or instructor permission
An introduction to archaeological survey, field excavation, and laboratory processing. Field school students participate in one or more of the ongoing research projects of the IUP Archaeology Program.

ANTH 340 Anthropology of Aging **3c-0l-3cr**
Introduces various experiences faced by elderly people in numerous world societies. Explores the impact of such factors as ethnicity, nationality, race, and class and the processes of cultural change on the lives of people growing old. Comparative, cross-cultural perspectives are stressed.

ANTH 350 Anthropology of Women **3c-0l-3cr**
Designed for any student with an interest in the lives of women around the world, regardless of whether or not he or she has a strong background in anthropology. Examines the social roles, rights, and responsibilities of women cross-culturally, viewing both women's productive (economic) functions as well as reproductive functions. Reading describes the position of women in technologically simple societies and addresses the comparative position of women in the industrialized socialist and capitalist countries. The central theme of the course is an examination of how the position of women changed in the twentieth century.

ANTH 360 Applied Anthropology **3c-0l-3cr**
Applied anthropology focuses on the anthropologist as an agent of social change and bridges the gap between theories of cultural behavior and the policies which affect contemporary cultures. Examines the historical role of anthropologists in early public administration and then examines at length the work of contemporary applied anthropologists in programs of international economic development (health, agriculture, and education), in domestic human service planning and delivery, in cultural resource preservation, and in their role as advocates for unempowered minorities.

ANTH 365 Native North American Religions **3c-0l-3cr**
An introduction to the indigenous religions of North America and to the peoples who practice these rich and varied approaches to the sacred. Not only examines major religious themes and dimensions (myth, ritual, ethics, etc.), but also includes a historical perspective on North American Indian lifeways. This perspective involves discussion of the clash with Euro-American values and contemporary native religious responses to social crisis and change. (Also offered as RLST 365; may not be taken for duplicate credit)

ANTH 370 Latinos and Diasporas **3c-0l-3cr**
Introduces the global and local dimensions of the changing Latino communities in the United States and examines the communities' multiple connections and dynamic interactions with Latin American diasporas. Toward this end, the course covers: (1) theories on transnational communities, diasporas, the state, and citizenship; (2) Latino cultures and geography, (3) Latin American immigration and labor migration to the United States; and (4) the impact of Latin American diasporic networks on Latino and non-Latino communities. (Cross-listed as LAS 370)

ANTH 401 Social and Cultural Change **3c-0l-3cr**
Prerequisite: ANTH 110 or SOC 151
Explores current theoretical perspectives on social and cultural change. Special attention given to planned change at the local or regional level.

ANTH 415 Cultural Resource Management **3c-0l-3cr**
Prerequisite: ANTH 244 or instructor permission
Provides an understanding of how cultural resources are being preserved and managed under current American laws and regulations with particular emphasis on historic properties, such as historic buildings and archaeological sites. Case studies and field trips are incorporated so that students gain a thorough understanding of key problems and issues in historic preservation and cultural resource management.

ANTH 420 Cultural Ecology **3c-0l-3cr**
Prerequisite: ANTH 110 or 211
Introduces the field of ecological anthropology by exploring the concept of the ecosystem in relationship to varying human adaptive strategies.

Illustrates the importance of understanding man-environment interactions both in studying the developing world and in investigating the past.

ANTH 430 Anthropology of Food **3c-01-3cr**
All humans must obtain food in order to ensure their subsistence, but the ways in which we satisfy this basic physiological need are not the same for everyone. Examines how human evolutionary history influences contemporary consumption patterns. Discusses how patterns of human migration influenced the development of cuisines and how what we eat is often determined by historical patterns of colonization and contemporary political struggles. Discusses the cultural basis for definitions of what is edible and what is prohibited. Examines patterns of food use in our culture and how science may influence our patterns in years to come.

ANTH 444 Medical Anthropology **3c-01-3cr**
Prerequisite: 9cr in ANTH or permission
Focuses on the study of human confrontation with disease and illness and on the adaptive arrangements made by various human groups for dealing with these dangers. Health and disease are viewed from a broad array of micro and macro perspectives, e.g., evolutionary, ecological, and psychosocial. Designed for nursing and social work students as well as social and biological sciences students.

ANTH 456 Ethnographic Research Methods **3c-01-3cr**
Prerequisite: 9cr in ANTH
Provides a background in qualitative and quantitative techniques used in anthropological research. Concentrates on the ethics of research with people, formulation of hypotheses, design and use of appropriate research techniques, and data analysis. Emphasizes development of field notes, interviewing techniques, developing genealogies, and participant observation.

ANTH 460 Ethnographic Field School **6c-01-6cr**
Prerequisite: ANTH 456 or instructor permission
Ethnographic research training in the field. Emphasizes the application of qualitative research methods, the recording of data in research journals and the maintaining of field diaries, the categorizing and organizing of data, and the writing of research reports.

ANTH 480 Anthropology Seminar **var-1-3cr**
Prerequisite: 9cr in ANTH or permission
A seminar approach to the integration of the fields of anthropology. Designed to assist the advanced student in understanding the nature of anthropology, the major theoretical issues, and the history of intellectual development.

ANTH 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ANTH 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

ANTH 493 Internship in Anthropology **var-3-12cr**
Prerequisite: Instructor permission
Offers practical experience in any of the specialized fields of anthropology (physical, social-cultural, archaeology, or linguistics). Each student develops objectives in consultation with a particular departmental faculty member who is supervising the internship. Detailed field notes and a major paper based on the experience are required.

APMU: Applied Music
Department of Music
College of Fine Arts

APMU Applied Music (Major Area) Instrument/Voice I-VIII **var-2 or 4cr**
Prerequisite for initial semester of study: Audition and acceptance to the area of concentration
Prerequisite for subsequent semesters: Grade of C or better in the previous semester of study
Private instrumental or vocal instruction for music majors in their primary area of concentration for up to eight semesters. Includes technical studies, musical repertoire, and performance experiences at the professional level. Weekly half-hour lessons are given (2cr) for students enrolled in the B.S. and B.A. degree programs. Weekly one-hour lessons (4cr) are given for students enrolled in the B.F.A. degree program only.

APMU Applied Music (Minor Area) Instrument/Voice I-IV **var-1 cr**
Prerequisite for initial semester of study: Audition and placement
Prerequisite for subsequent semesters: Grade of C or better in the previous semester of study
Private instrumental or vocal instruction for music minors, or for music majors in their secondary or tertiary area of concentration for up to four semesters. Includes technical studies, musical repertoire, and performance experiences at a functional level. Students enroll for one semester hour and are given weekly half-hour lessons. Students may enroll in Levels I-IV only from the list below.

APMU 101, 151, 201, 251, 301, 351, 401, 451 Piano I-VIII
APMU 102, 152, 202, 252, 302, 352, 402, 452 Organ I-VIII
APMU 103, 153, 203, 253, 303, 353, 403, 453 Harpsichord I-VIII
APMU 104, 154, 204, 254, 304, 354, 404, 454 Harp I-VIII
APMU 105, 155, 205, 255, 305, 355, 405, 455 Voice I-VIII
APMU 106, 156, 206, 256, 306, 356, 406, 456 Violin I-VIII
APMU 107, 157, 207, 257, 307, 357, 407, 457 Viola I-VIII
APMU 108, 158, 208, 258, 308, 358, 408, 458 Cello I-VIII
APMU 109, 159, 209, 259, 309, 359, 409, 459 String Bass I-VIII
APMU 110, 160, 210, 260, 310, 360, 410, 460 Flute I-VIII
APMU 111, 161, 211, 261, 311, 361, 411, 461 Clarinet I-VIII
APMU 112, 162, 212, 262, 312, 362, 412, 462 Oboe I-VIII
APMU 113, 163, 213, 263, 313, 363, 413, 463 Bassoon I-VIII
APMU 114, 164, 214, 264, 314, 364, 414, 464 Saxophone I-VIII
APMU 115, 165, 215, 265, 315, 365, 415, 465 Trumpet I-VIII
APMU 116, 166, 216, 266, 316, 366, 416, 466 French Horn I-VIII
APMU 117, 167, 217, 267, 317, 367, 417, 467 Trombone I-VIII
APMU 118, 168, 218, 268, 318, 368, 418, 468 Euphonium I-VIII
APMU 119, 169, 219, 269, 319, 369, 419, 469 Tuba I-VIII
APMU 120, 170, 220, 270, 320, 370, 420, 470 Percussion I-VIII
APMU 121, 171, 221, 271, 321, 371, 421, 471 Guitar I-VIII

APMU 122 Applied Jury A **0c-01-0cr**
Prerequisite: APMU Applied Music (Major Area)–all required levels
Adjudicates the performance of students in their respective major performance area (on a "Pass" or "Fail" basis) as partial fulfillment of the graduation requirements in the B.S.Ed.–Music and B.F.A.–Music degrees. Students are expected to attain a professional level of performance on all of their required major area juries in order to receive a passing grade.

APMU 123 Applied Jury B **0c-01-0cr**
Prerequisite: APMU Applied Music (Major Area)–all required levels
Adjudicates the performance of students in their respective major performance area (on a "Pass" or "Fail" basis) as partial fulfillment of the graduation requirements in the B.S Ed.–Music degree. Students are expected to attain a functional level of performance on all of their required minor area juries in order to receive a passing grade.

APMU 124 Applied Jury C **0c-01-0cr**
Prerequisite: MUSC Class Piano I and II or APMU Applied Music (Minor) I and II

Adjudicates the performance of students in their respective major performance area (on a "Pass" or "Fail" basis) as partial fulfillment of the graduation requirements in the B.S.Ed.–Music degree program. Students are expected to attain a fundamental level of proficiency on piano as indicated by passing the Piano C Jury

APMU 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in an independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ARED: Art Education
Department of Art
College of Fine Arts

ARED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ARED 315 Issues of Art in K-12 Programs **3c-0l-3cr**
A seminar to introduce the art education major to the principles and practices of teaching visual arts K through 12. Field experiences, pre-student teaching activities, introduction to literature, and history and philosophies of art education emphasized. (Prerequisite to student teaching) Taught Fall semester only. (Titled Survey in Art Education prior to 2003-04)

ARED 317 Art in K-6 Programs **1c-3l-3cr**
Examines children's artistic development, art programs, planning, motivation, and evaluation. Weekly teaching experience is an integral part of the course. (Prerequisite to student teaching) Taught Fall semester only. (Titled Art Education Methodology at the Elementary Level prior to 2003-04)

ARED 318 Art in 7-12 Programs **1c-3l-3cr**
The relationship of art education to the total secondary curriculum is studied to determine goals of junior-senior high school art. The adolescent creative products are analyzed to help the prospective art teacher to identify with problems of students. Taught Spring semester only. (Prerequisite to student teaching) (Titled Art Education Methodology at the Secondary Level prior to 2003-04)

ARED 320 Art Criticism and Aesthetics in K-12 Programs **3c-0l-3sh**
Prerequisites: ARED 315 (minimum C grade) and Art Education major
The purpose is to secure the knowledge and skills necessary to teach a program of comprehensive art that includes the discipline of art criticism. Establishes theoretical frameworks for writing intelligently and talking about art with students from a critical perspective. Also provides opportunities for developing curricular and pedagogical materials appropriate for teaching art.

ARED 321 Art History Inquiry for K-12 Art Programs **3c-0l-3sh**
Prerequisites: ARED 315 (minimum C grade) and Art Education major
Explore methods, media, and activities that integrate art history content into the school art curriculum. Students plan and execute lessons which are appropriate at various grade levels and which emphasize art history and knowledge of artistic diversity worldwide. Students prepare one unit on a selected theme, in addition to other written or artistic assignments. Preparation of art history-related projects and instructional materials for classroom use are also components of the course.

ARED 322 Studio Inquiry for K-12 Programs **3c-0l-3sh**
Prerequisites: ARED 315 (minimum C grade) and Art Education major
Art processes, media, and techniques suitable for teaching art to elementary and secondary students are examined and researched as modes of learning and creating. A major focus is on developing curricula and pedagogical materials relating to the theory and practice of teaching art, as well as integrating studio experiences with art criticism, art history, and aesthetics. Students apply demonstrated techniques and processes to sample projects and combine these with research into a portfolio for teaching studio art within comprehensive art lessons.

ARED 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

ARED 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ARHI: Art History
Department of Art
College of Fine Arts

ARHI 100 Arts of the Twentieth Century **3c-0l-3cr**
Prerequisite: Art majors and minors only
A study of art in the U.S. during 1900-1960 in light of historical events and in the broader context of political, philosophical, religious, and social developments, including women and underrepresented groups as subjects, creators, and patrons of the arts. An introductory course for incoming art majors. Primary focus on painting, photography, and film. (Offered as ART 100 prior to 2003-04)

ARHI 101 Introduction to Art **3c-0l-3cr**
Introduces the student to the significance of art as related to contemporary living and our historical heritage.

ARHI 205 Ancient to Medieval Art **3c-0l-3cr**
A study of art from prehistoric times to the Middle Ages. Humankind's artistic development is seen in relation to political, social, economic, and religious events.

ARHI 207 Renaissance through Modern Art **3c-0l-3cr**
Studies art from the Renaissance through the Modern periods in western Europe in light of historical events and in the broader context of political, philosophical, religious, and social developments, including women and underrepresented groups as subjects, creators, and patrons of the arts. Issues of exoticism, Orientalism, and colonialism are discussed.

ARHI 222 Art in America **3c-0l-3cr**
Surveys American art and its relation to the development of American ideas and ideals.

ARHI 224 Introduction to Asian Art **3c-0l-3cr**
Surveys a selection of art and architectural forms from China, Japan, India, Korea, and Southeast Asia. Students are introduced to religious and secular sculpture, painting, and ceramics, as well as the philosophical, political, and social forces that prompted their creation.

ARHI 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ARHI 300 Native American Art **3c-0l-3cr**
Prerequisites: ARHI 101, junior standing, or permission
A survey of the broad forms of visual arts and crafts that reflects the lifeways of Native Americans from paleo-indian origins to A.D. 1900.

ARHI 407 Medieval Art 3c-01-3cr
Art and architecture of Europe during the Middle Ages, beginning with early Christian and Byzantine and concluding with the Gothic period. Dual listed for graduate credit as ARHI 507.

ARHI 408 Italian Renaissance Art 3c-01-3cr
Italian art from 1400s through 1650 and Mannerist movement. Special attention paid to great masters of the period. Dual listed for graduate credit as ARHI 508.

ARHI 409 Baroque and Rococo Art 3c-01-3cr
A general survey of art from 1575 to 1775, includes architecture, sculpture, painting, and other arts. Dual listed for graduate credit as ARHI 509.

ARHI 410 Nineteenth-Century European Painting 3c-01-3cr
Prerequisite: Junior standing or instructor permission
Surveys the history of Western painting from the late eighteenth century to the turn of the twentieth. The styles and movements covered range from neo-classicism to romanticism, realism, the Pre-Raphaelite painters, impressionism, symbolism, and post-impressionism. French painting is most heavily represented. Activities include lecture mixed with discussion of readings, debates about issues, practice in "reading" images, and others.

ARHI 411 Twentieth-Century European Art 3c-01-3cr
Studies twentieth-century painting, sculpture, photography, and film in France, Germany, and Italy in light of historical events and in the broader context of political, philosophical, religious, and social developments, including women and underrepresented groups as subjects, creators, and patrons of the arts.

ARHI 412 Classical Art 3c-01-3cr
A historical survey of the architecture, painting, sculpture, and minor arts of the classical period of Greece and Rome, including the Minoan, Mycenaean, and Etruscan cultures.

ARHI 413 Senior Seminar 3c-01-3cr
Intended to help students develop adequate vocabularies and methods to be used in discussion and criticism of works of art.

ARHI 416 Northern Renaissance Art 3c-01-3cr
Explores phenomena of art north of the Alps from 1400 to 1600, especially as it appears in the Lowlands, as well as side explorations into art of France, Germany, Austria, and the court at Prague.

ARHI 417 Byzantine Art 3c-01-3cr
Prerequisite: ARHI 205 or instructor permission
Investigates the art and architecture produced in the Byzantine Empire, with a concentration on the years between 324, the year Constantine founded Constantinople, and 1453, the date the Turks conquered the city. Consisting of lectures, discussions, videos, and field trips, the course emphasizes cross-cultural contacts between Byzantium, Islam, and the West.

ARHI 418 African Art 3c-01-3cr
Explores the aesthetics and meanings of African Art through a historically and culturally based survey of art from selected African cultures. Examples of sculptures, masks, and other ritual objects, tools and utilitarian objects, clothing, jewelry and adornment, painting, and architecture from across the continent are studied. Philosophical and religious beliefs, socioeconomic, historical, and political forces are examined as to how they have impacted the creation of art in traditional and contemporary Africa. Connections between the visual arts and the other fine arts are an integral part of the study as well.

ARHI 423 Art of Japan 3c-01-3cr
Introduces the history and aesthetics of Japanese art, from antiquity to the present. Lectures focus on major works of painting, sculpture, architecture, prints, ceramics, and other works from antiquity to the present. Close attention is paid to their historical contexts and underlying themes. These include religious influences, the imperial court, the tea ceremony, and modern life. The interaction of Japan with its neighbors is also considered.

ARHI 425 Arts of China 3c-01-3cr
Surveys art selected from the five millennia of Chinese art and culture. Examines sculpture, architecture, and painting from the Neolithic period through the twentieth century. Issues of religion, patronage, and popular culture are included.

ARHI 481 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

ARHI 482 Independent Study var-1-3cr
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ART: Art (Studio)
Department of Art
College of Fine Arts

ART 111 Figure Drawing 0c-6l-3cr
A foundation course in drawing, including a study of the structure of drawing and composition with a variety of media and subject matter.

ART 112 Fundamentals of Drawing 0c-6l-3cr
Seeks to integrate basic principles and fundamentals of drawing and design.

ART 113 Three-Dimensional Design 0c-6l-3cr
Basic elements and principles of design are studied. A course in design in three dimensions.

ART 114 Color and Two-Dimensional Design 0c-6l-3cr
Focuses on the consistent properties of color and the manner in which two-dimensional design can be organized. Specific attention is given to the complex interactions of color within two-dimensional design.

ART 120 Principles of Design 0c-4l-2cr
Principles of design and color are studied and applied to a crafted object. Major emphasis on aesthetic quality inherent in designing with materials.

ART 211 Painting 0c-6l-3cr
An introduction to painting in which a variety of materials, techniques, and approaches are explored.

ART 213 Woodworking: Function and Form 0c-6l-3cr
Involves the study of woodworking and furniture design as it relates to the individual designer-artist. Students experience a formal background in both woodworking technique and the application of design.

ART 214 Ceramics 0c-6l-3cr
A general introduction to the techniques and aesthetics of clay. The student works both at the wheel and with hand building methods.

ART 215 Sculpture 0c-6l-3cr
An introduction to sculpture with an emphasis on study of form as well as visualizing in the third dimension.

ART 216 Basic Metals 0c-6l-3cr
An introduction to metal work with an emphasis upon creation of functional and nonfunctional art objects. Approached from the viewpoint of beginner learning basic processes of metal fabrication.

ART 217 Print Media 0c-6l-3cr
An introduction to basic techniques of print media including planographic, relief, and electronic processes.

ART 218 Introduction to Graphic Design **0c-6l-3cr**
Prerequisites: ART 112, 114
A survey of graphic design, exploring creative problem-solving techniques. Introduces the importance of concept development, aesthetics, symbolism, typography, and computer method. Studio experience provides a wide range of experiences for the beginning graphic design student. Projects, problems, and exercises will deal with skills, principles, application, and theory.

ART 219 Fibers **0c-6l-3cr**
Provides students with introductory working knowledge in design and execution of projects in non 4/harness loom weaving and related fabric areas. Other fiber techniques, including handmade paper, available for students to explore as desired.

ART 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ART 316 Intermediate Jewelry and Metals **0c-6l-3cr**
Prerequisite: ART 216
Technical expertise will be further developed during the course, gradually shifting from formal techniques to experimentation and individual expression. Various techniques, including casting, stone setting, and an introduction to smithing will be explored.

ART 355 Intermediate Graphic Design I **0c-6l-3cr**
Prerequisite: ART 218
An intermediate-level study in graphic design focusing on digital illustration, complex typography, and publication design. Studio experience will focus on current professional 2D digital illustration software.

ART 356 Intermediate Graphic Design II **0c-6l-3cr**
Prerequisite: ART 218
Recommended Prerequisite: ART 355
An intermediate-level study in graphic design, researching publication design, grid systems, and multipage design. Studio experience will focus on current professional software used for publication design.

ART 400 Senior Thesis and Professional Practicum **3c-0l-3cr**
Prerequisites: B.F.A.-Studio majors only, senior status
Development of a senior thesis exhibition project and investigation of professional practices for the visual artist. Major issues include the development of a thesis exhibition, resume development, an artist's professional image, portfolio development, marketing skills, career opportunities, and grant writing.

ART 421 Advanced Drawing **0c-6l-3cr**
Prerequisites: ART 111 and 112
Designed to meet the needs of the student who has some background in the field. Problems of composition, two- and three-dimensional relationships, and surface are on an individual basis.

ART 451 Advanced Woodworking: Function and Form **0c-6l-3cr**
Prerequisite: ART 213
Offers advanced training and skills involving the study of contemporary furniture design and woodworking. Emphasizes a technical and aesthetic point of view.

ART 452 Advanced Ceramics **0c-6l-3cr**
Prerequisite: ART 214
Continued exploration of the field of ceramic production, along with kiln firing and glaze formulation.

ART 453 Advanced Sculpture **0c-6l-3cr**
Prerequisite: ART 215
Provides an opportunity to pursue independent study in sculpture. Materials and processes are individually chosen and the work related to broadening concepts.

ART 454 Advanced Painting **0c-6l-3cr**
Prerequisite: ART 211
Individual experimentation and exploration by the painter and investigation of the various technical approaches.

ART 455 Advanced Graphic Design I **var-3, 6cr**
Prerequisites: ART 218, 355; instructor permission is required for 6cr studio
Recommended Prerequisite: ART 356
Introduces three-dimensional modeling and rendering for illustration and animation. Studio experience will focus on current professional 3D software.

ART 456 Advanced Graphic Design II **var-3, 6cr**
Prerequisites: ART 218, 355; instructor permission is required for 6cr studio
Recommended Prerequisites: ART 356, 455
An exploration of web page and interactive design. Studio experience will focus on current professional web and interactive software.

ART 457 Advanced Print Media **var-3, 6cr**
Prerequisite: ART 217, permission is required for 6cr studio
Student elects to study a print media process or processes in greater depth and works toward developing personal visual language and techniques ranging from the traditional to the nontraditional.

ART 459 Advanced Fibers **0c-6l-3cr**
Prerequisite: ART 219
Provides a working knowledge in design and execution of projects in weaving and related areas. Other fiber techniques, including handmade paper, are available for the students to explore as desired.

ART 460 Advanced Metals **0c-6l-3cr**
Prerequisite: ART 216
Design and processes associated with art of metal are given greater concentration. The developing artist is encouraged to investigate, in depth, one or more of the metal arts as an extension of the basic course.

ART 481 Special Topics **var-1-3cr**
May provide an in-depth study of a narrowly defined area of the discipline. Subject matter may change with repeated offering of the course. May be repeated for credit.

ART 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ART 493 Internship **var-3-12cr**
For art majors who wish to receive practical experience working within professional situations which relate to the student's artistic and occupational goals.

BIOC: Biochemistry
Biochemistry Program
College of Natural Sciences and Mathematics

BIOC 301 Biochemistry I **3c-0l-3cr**
Prerequisites: BIOL 111 and CHEM 232
An introduction to biochemistry emphasizing the structure and function relationships of proteins, enzymes, and vitamins; bioenergetics; and the metabolism of carbohydrates and lipids.

BIOC 302 Biochemistry II **3c-0l-3cr**
Prerequisite: BIOC 301
A continuation of BIOC 301 concerning the metabolism of nitrogen, amino acids, nucleotides, and nucleic acids and the function of cell membranes, hormones, and specialized tissues.

BIOC 311 Biochemistry Laboratory I **0c-4l-1cr**
Prerequisites: BIOL 111 and CHEM 232
A companion to BIOC 301 including experiments in photometry, enzyme kinetics and purification, lipid isolation and characterization, electron transport in respiration and photosynthesis, and use of radioisotopes.

BIOC 312 Biochemistry Laboratory II **0c-4l-1cr**
Prerequisite: BIOC 311
A companion to BIOC 302 including experiments in membrane characterization, properties of amino acids, isolation and function of nucleic acids, and synthesis of proteins and nucleic acids.

BIOC 480 Biochemistry Seminar I **1c-0l-1cr**
Prerequisites: BIOC 302 and 312
A discussion of recent trends in biochemical thought. Oral and written reports on assigned readings, library or laboratory research. Guest lecturers. The combination BIOC 480-490 counts as one writing-intensive course.

BIOC 481 Special Topics in Biochemistry **var-l-3cr**
Prerequisite: BIOC 302 or CHEM 351
A lecture-discussion course of recent biochemical topics or those of unique interest. Topic and instructors to change annually.

BIOC 482 Independent Research in Biochemistry **var-1-3cr**
Prerequisites: BIOC 302 and 312, permission by program coordinator
Student conducts a research project in any area of biochemistry. Work supervised by faculty. Does not involve regular class or lab hours. Enrollment by permission only.

BIOC 490 Biochemistry Seminar II **1c-0l-1cr**
Prerequisites: BIOC 302, 312, and 480
A discussion of recent trends in biochemical thought. Oral and written reports on assigned readings, library or laboratory research. Guest lecturers. The combination BIOC 480-490 counts as one writing-intensive course.

BIOL: Biology
Department of Biology
College of Natural Sciences and Mathematics

BIOL 103 General Biology I **3c-2l-4cr**
Prerequisite: Non-Biology majors only
A basic introduction to ecology, biochemistry, and cell biology, genetics, and evolution.

BIOL 104 General Biology II **3c-2l-4cr**
Prerequisites: BIOL 103, non-Biology majors only
A basic introduction to plant and animal physiology, neurobiology, animal behavior, and plant and animal reproduction and development.

BIOL 105 Cell Biology **3c-0l-3cr**
Prerequisite: Non-Biology majors only
Introduces concepts and applications for understanding human biological function from the point of view of cellular biology.

BIOL 111 Principles of Biology I **3c-3l-4cr**
Prerequisite: Must be taken after or concurrent with CHEM 111
Introduces the student to principles of biology, specifically in the topics of cell structure and function, genetics, and physiology. Develops skills in the use of the scientific method. Designed for biology majors.

BIOL 112 Principles of Biology II **3c-3l-4cr**
Prerequisite: BIOL 111
Introduces the principles of biology, specifically in the topics of reproduction, development, evolution, ecology, and animal behavior. Develops skill in the use of the scientific method. Designed for biology majors.

BIOL 113 Genetics in Modern Society **3c-0l-3cr**
Prerequisite: Non-Biology majors and non-Biology minors only
Intended primarily to provide the student with an appreciation and comprehension of the field of genetics as it applies to the human condition. Introduces the topic of human heredity as a means to understand genetic disorders, genetic therapies, and alternative reproductive strategies. Provides an introductory background of the field of genetics and current biotechnology related to genetics, which is suitable for nonmajors. Using this background, the student is presented with the most recent events in the field of human genetics and its effect on society.

BIOL 114 Environmental Science **3c-0l-3cr**
Prerequisite: Non-Biology majors only
An introduction to environmental science with an emphasis on human impacts. Uses an interdisciplinary approach to the consideration of population growth, pollution, preservation of species, and establishment of public policy. Students learn basic principles in ecology as the basis for understanding problems of the environment.

BIOL 115 Biotic Diversity of North America **3c-0l-3cr**
Prerequisite: Non-Biology majors and non-Biology minors only
An introduction to the biological diversity of North America from Barrow, Alaska, to Tehuantepec, Mexico. All major aquatic and terrestrial biomes occurring in North America are examined with regard to plant forms, animal composition, and environmental (abiotic) conditions.

BIOL 116 Introduction to Marine Biology **3c-0l-3cr**
Prerequisite: Non-Biology and non-Biology Education majors and non-Biology minors only
An introduction to the world of marine biology. Include a discussion of the major groups of plants and animals found in the marine environment and a discussion of the major communities that make up the oceans of the world.

BIOL 117 Understanding HIV Biology and AIDS **3c-0l-3cr**
An introduction to the AIDS virus in which the mode of infection, transmission, and prevention will be used as an illustration of biological principles. Profiles biological indicators for HIV disease and its progression to AIDS. Therapeutic and nontherapeutic approaches to treat HIV infections are emphasized.

BIOL 118 The History of Pain **3c-0l-3cr**
Prerequisite: Non-Biology majors, non-Biology Education majors, and non-Biology minors only
Despite its many individual, social, and cultural characteristics, pain is based on an anatomical and physiological foundation. Looks at the history of scientific theories and hypotheses about understanding the pain mechanism. Through this type of study, students learn about the status of pain in various societies throughout the ages.

BIOL 119 Emerging Diseases **3c-0l-3cr**
Prerequisite: Non-Biology majors and non-Biology minors only
Intended primarily to provide t an understanding of the biological basis of infectious diseases and the social, historical, and ethical consequences of these types of afflictions. Covers background material such as the germ theory of disease and the cell theory at an introductory level. Includes specific cases of emerging or reemerging infectious diseases with emphasis on current events relating to disease outbreaks.

BIOL 123 Perspectives in Cell and Molecular Biology **1c-0l-1cr**
Prerequisite: BIOL 111
Designed for those interested in entering the Cell and Molecular Biology Track. Introduces the latest advances in the fields of molecular biology and biotechnology, as well as the career possibilities and professional responsibilities in these fields. Designed to aid students in clarifying career goals and introduce them to the literature of molecular biology, including electronic resources. Includes field trips that might take place on weekends.

BIOL 150 Human Anatomy **2c-3l-3cr**
Prerequisite: Non-Biology majors only
A study of the functional systematic anatomy of the human. Lab studies center on nonhuman mammals whose anatomy is then related to the human condition.

BIOL 151 Human Physiology **3c-2l-4cr**
Prerequisites: BIOL 103, or 105, 111, or HPED 221, or instructor permission. Non-Biology majors and controlled elective for Biology majors
The study of the mechanisms but with the human organism functions.

Mechanisms covered range from the molecular/subcellular to the tissue, organ, and organism levels. Organ systems examined include the nervous, muscular, cardiovascular, respiratory, endocrine, renal, digestive, and reproductive. Emphasizes three major themes: (1) that organ functions are dependent upon the underlying molecular and cellular processes, (2) that all organ systems utilize biological control systems to maintain organ homeostasis, and (3) that each organ function is closely controlled and dependent upon the interaction/integration with functions from other organ systems.

BIOL 155 Human Physiology and Anatomy **3c-3l-4cr**
Prerequisite: Non-Biology majors only (Food and Nutrition, Dietetics, Family and Consumer Sciences Education, Physical Education, and Safety Sciences majors)
A study of structure and function of the human body. Emphasizes normal function, with particular attention to functional anatomy, control mechanisms, and interrelationships among systems. Laboratory studies include experimentation and dissection. For students with little or no science background.

BIOL 210 Botany **2c-3l-3cr**
Prerequisites: BIOL 111-112 or instructor permission
A survey of the major plant groups, their physiology, structure, life cycles, evolution and ecology, and economic roles of plants. Combined lecture-laboratory.

BIOL 220 General Zoology **2c-3l-3cr**
Prerequisites: BIOL 111-112 or instructor permission
An examination of the evolution, form, and function of all major animal phyla, from sponges through chordates. Interactive lecture-laboratory sessions follow a phylogenetic approach to the Animal Kingdom and incorporate essentials of animal ecology, physiology, functional morphology, and behavior.

BIOL 241 General Microbiology **2c-3l-3cr**
Prerequisites: Non-Biology majors only (Environmental Health Science, Nursing, and Respiratory Therapy majors), BIOL 105, CHEM 101, or equivalent
A study of microorganisms and the role they play in water, soil, food, and infection. Microbes and disease are emphasized. Standard methods and techniques are emphasized in laboratory.

BIOL 242 Comparative Vertebrate Anatomy **2c-3l-3cr**
Prerequisites: BIOL 220
An investigation of the comparative structure and function of the vertebrate body emphasizing the diverse solutions to the problem of design for survival and the evolutionary mechanisms that provide those solutions. Meets twice per week for two and one-half hours. Each meeting includes both lecture and laboratory experiences.

BIOL 250 Principles of Microbiology **2c-3l-3cr**
Prerequisites: BIOL 111-112 or instructor permission
A study of the structure, nutrition, and biochemical activities of microbes. A survey of viruses, blue-green bacteria, bacteria, algae, fungi, and protozoa and their diversity in natural environments. Designed for Biology and Biology Education majors.

BIOL 251 Field Botany **2c-3l-3cr**
Prerequisite: BIOL 210
The collection, preservation, identification, and distribution of selected herbaceous and woody plants of Western Pennsylvania. Emphasizes taxonomic principles, the use of keys and manuals, and the recognition of local flora.

BIOL 252 Field Zoology **2c-3l-3cr**
Prerequisite: BIOL 220
Field natural history of vertebrates; identification, collection, and preservation techniques.

BIOL 261 Ornithology **2c-3l-3cr**
Prerequisites: BIOL 111-112 or BIOL 103-104
A study of birds of the region. Indoor laboratory as well as early morning and possibly weekend field trips required.

BIOL 262 General Entomology **2c-3l-3cr**
Prerequisite: BIOL 220
Morphology, anatomy, ecology, taxonomy, and economic and public health importance of insect orders, particularly those of Western Pennsylvania; student collection and field trips required.

BIOL 263 Genetics **2c-3l-3cr**
Prerequisite: BIOL 111
Deals with the distribution and function of the hereditary material; special emphasis on microbial, viral, and molecular genetics.

BIOL 271 Evolution **3c-0l-3cr**
Prerequisites: BIOL 111-112 or 103-104, 263
Historical development of evolutionary thought, evidence and operational mechanisms involved; origin and phylogenetic relationships of biological groups.

BIOL 272 Conservation of Plant and Animal Resources **2c-3l-3cr**
Prerequisites: BIOL 111-112 or 103-104
A study of accepted practices in soil, water, forest, and wildlife conservation. Saturday field trips.

BIOL 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

BIOL 310 Applied Entomology and Zoonoses **2c-3l-3cr**
Prerequisite: BIOL 220 or permission
A study of the measures for abatement or control of arthropods, rodents, birds, and other disease vectors of public importance; selection, chemistry, formulation, and safe application of insecticides, rodenticides, and fumigants; pesticiding equipment; application of biological and other measures of control. (Also offered as ENVH 310; may not be taken for duplicate credit)

BIOL 323 Introduction to Toxicology and Risk Assessment **3c-0l-3cr**
Prerequisites: BIOL 104 or 112; CHEM 102 or 112; or permission
A study of uptake, distribution, metabolism, and excretion of environmental chemicals; mechanisms of their toxicity; and their effects on major organ systems. Knowledge of these topics is applied to risk assessment procedures. (Also offered as ENVH 323; may not be taken for duplicate credit)

BIOL 331 Animal Developmental Biology **2c-3l-3cr**
Prerequisite: BIOL 220 or permission
Comparative and molecular development of vertebrate animals are the major considerations. General principles of development are illustrated using vertebrate, invertebrate, and plant materials.

BIOL 352 Comparative Animal Physiology **2c-3l-3cr**
Prerequisites: BIOL 220, CHEM 231
A comparative study of homeostatic mechanisms and systems in animals and their relation to fundamental chemical and physical events in cells.

BIOL 362 Ecology **2c-3l-3cr**
Prerequisites: BIOL 111-112, BIOL 210 or BIOL 220
A study of interrelations and adaptations of organisms; includes consideration of physical and biotic environmental factors. Field trips.

BIOL 363 Medical Microbiology **2c-3l-3cr**
Prerequisite: BIOL 250 or permission
A study of disease caused by microorganisms with an emphasis on human pathogens. Both epidemiology and aspects of host-parasite relationships are discussed. Lab stresses methods of isolation and identification of pathogens.

BIOL 364 Immunology **2c-3l-3cr**
Prerequisites: BIOL 250, CHEM 232, or permission
Physical and chemical properties of antigens and antibodies; nature of antigen-antibody interactions; mechanism of antibody formation; and immune reaction and disease. Lab employs serological techniques.

BIOL 401 Laboratory Methods in Biology and Biotechnology **2c-4l-3cr**
Prerequisite: CHEM 351
Theory and practice in a number of major analytical and preparative techniques currently in use in physiology, molecular biology, and biotechnology.

BIOL 410 Molecular Biology Topics **3c-0l-3cr**
Prerequisite: BIOL 263 or BIOC 301 or CHEM 351
Involves the study of biological phenomena in molecular terms. Focuses on recombinant DNA principles as they relate to prokaryotes and eukaryotes. Emphasizes the modern methods used in recombinant DNA technology.

BIOL 425 Herpetology **2c-3l-3cr**
Prerequisite: BIOL 220
A comprehensive survey of the classes Amphibia and Reptilia, including their classification, structure, origin, evolution, phylogenetic relationships, distribution, and natural history. Special emphasis is on the herpetofauna of Pennsylvania.

BIOL 450 Pymatuning: Field Studies **var-3cr**
During the summer session, various field courses are offered through the Pymatuning Laboratory of Ecology. The offerings vary depending on the summer. Some of the possible offerings include Experimental Design, Fish Ecology, Behavioral Ecology, Aquatic Botany, and Ecological Genetics. Information regarding specific offerings is available from the Biology Department in the spring.

BIOL 453 Plant Physiology **2c-3l-3cr**
Prerequisites: BIOL 210, CHEM 231
Studies physiological processes occurring in plants considered in relation to growth, development, and ecology of plants.

BIOL 455 Animal Behavior **3c-0l-3cr**
Prerequisite: BIOL 220 or permission
The biological study of animal behavior. Topics include the mechanisms, development, ecology, and evolution of behavior.

BIOL 460 Fundamentals of Environmental Epidemiology **3c-0l-3cr**
Prerequisites: BIOL 104 or 112; MATH 216 or 217; or instructor permission
A study of the health consequences of involuntary exposure to harmful chemical and biological agents in the general environment. Disease etiology, occurrence, and intervention in human populations are examined through epidemiologic study using analytical methods and applications. (Also offered as ENVH 460; may not be taken for duplicate credit)

BIOL 463 Limnology **2c-3l-3cr**
Prerequisite: BIOL 362
An investigation into the physical, chemical, and biological aspects of inland waters and their interrelationships. In the laboratory the student gains experience in the techniques involved in aquatic sampling and the analysis of data. (Saturday or Sunday labs may be required.)

BIOL 466 Principles of Virology **3c-0l-3cr**
Prerequisite: BIOL 263 or equivalent course in Genetics, or CHEM 351 or equivalent course in Biochemistry, or instructor permission
Topics include structure, classification, assay, and transmission of viruses; methods used in the study of viruses; viral replication, gene expression, and gene regulation; host-viral interactions and subviral pathogens.

BIOL 471 Dendrology of the Eastern U.S. **2c-3l-3cr**
Prerequisite: BIOL 210 or instructor permission
A comprehensive survey of the tree species in the eastern portion of North America with an emphasis on Pennsylvania forests.

BIOL 475 Mammalogy **2c-3l-3cr**
Prerequisite: BIOL 220
A general discussion of mammals emphasizing systematics, distribution, and structural and functional modifications related to evolution of this group. Lab work samples numerous techniques that can be applied to mammalian biology.

BIOL 476 Parasitology **2c-3l-3cr**
Prerequisite: BIOL 220
Structure, physiology, ecology, life cycles, pathology, and treatment of parasitic protozoa and flatworm and roundworm species of man. Dissection of hosts for parasites.

BIOL 477 Neurobiology **3c-0l-3cr**
Prerequisites: BIOL 111 or 105, or 151, or PSYC 350 or instructor permission
Presents the underlying mechanisms through which the nervous system mediates behavior, from the molecular to the organismal level. Emphasizes two major themes: (1) the roles of synapses and neuronal excitability in shaping the input/output functions of neurons and neuronal networks and (2) the role of neuronal development and neuronal experience upon resultant neuronal organization.

BIOL 480 Biology Seminar **1c-0l-1cr**
A discussion of recent trends in biological thought and research. Students report on assigned readings and/or personal research.

BIOL 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Course varies from semester to semester covering diverse topics in specific areas of biology.

BIOL 482 Independent Study **var-1-3cr**
Prerequisites: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office. A 2.5 cumulative GPA and in major courses required.
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources. Work is supervised by a faculty member but does not involve regular class or laboratory hours.

BIOL 483 Honors Thesis/Independent Study **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

BIOL 484 Honors Seminar **2c-0l-2cr**
Prerequisite: Admission to the Biology Honors Program
Selected topics in biology. Use of the literature in preparation for advanced coursework and BIOL 483. Analyzes the literature, develops a literature review, and develops a thesis proposal. Guest speakers will provide additional exposure to major areas of biology.

BIOL 493 Biology Internship **var-3-12cr**
Prerequisites: Biology major with at least 57cr, 2.5 cumulative GPA, and permission of the director of internships and the chairperson
Selected students have opportunity, under department supervision, to gain off-campus practical experience in area of interest. Only 6cr may be applied toward major; total number of credits is decided in consultation involving student, his/her advisor, and director of internships.

BLAW: Business Law
Department of Finance and Legal Studies
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400

courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

BLAW 235 Legal Environment of Business **3c-0l-3cr**
Explores the current American legal system by providing students with an introduction to a variety of legal topics important to all individuals and businesses. Topics must include sources of law, the court system and basic procedures, tort law, criminal law, and contracts. Topics may also include legal research and intellectual property. Ethical issues and international law are integrated throughout the course.

BLAW 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

BLAW 336 Law of Business Organizations **3c-0l-3cr**
Prerequisite: BLAW 235
A study of the law dealing with commercial paper, agency, partnerships, corporations, and bankruptcy.

BLAW 337 Consumer Law **3c-0l-3cr**
Nature of law as it pertains to the consumer. Attention to consumer protection relationships; real and personal property; credit; environmental law; law pertaining to employment; landlord-tenant relationships; product liability; insurance; and family law.

BLAW 440 Business Negotiations **3c-0l-3cr**
Prerequisites: BLAW 235, junior standing
Open to all majors meeting the prerequisites. Covers the basic theories and strategies of negotiation in the business environment and provides instruction and practice to develop negotiation skills. Focuses on the knowledge and skills needed in intercompany and intracompany negotiations. Focuses on neither collective bargaining nor labor negotiations.

BLAW 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

BLAW 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

BTED: Business and Technology Education
Department of Technology Support and Training
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

BTED 101 Microbased Computer Literacy **3c-0l-3cr**
An introductory course designed to provide a fundamental understanding of computers. Familiarizes students with the interaction of computer hardware and software. Emphasizes the application of microcomputers, the use of productivity software (word processing, spreadsheet management, file and database management, presentation graphics, web browsers, search strategies, and e-mail), and the social and ethical aspects of the impact of computers on society. Note: cross-listed as COSC and IFMG 101. Any of these courses may be substituted for each other and may be used interchangeably for D or F repeats but may not be counted for duplicate credit.

BTED 132 Computer Keyboarding and Formatting **3c-0l-3cr**
Prerequisite: BTED 309 or successful completion of proficiency exam
Focuses on the development of correct techniques in keyboarding. Emphasizes proofreading, formatting tabulations, business letters, business reports, business forms, rough drafts, and manuscripts; an additional emphasis on production, accuracy, and speed.

BTED 201 Internet and Multimedia **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101 or prior exposure to word processing and electronic mail
Focuses on the evaluation of information and multimedia resources available on electronic networks when doing research in an area of one's choice. Information literacy course is designed for students to gain a more in-depth understanding of the information resources available electronically and of how to utilize them more effectively in communicating. Students learn how to access and utilize these resources for two-way communications and support for decision making while incorporating selected elements in multimedia presentations of their own design. (BTED/COMM/COSC/IFMG/LIBR 201 may be used interchangeably for D or F repeats and may not be counted for duplicate credit.)

BTED 250 Electronic Office Procedures **3c-0l-3cr**
Prerequisite: BTED 131 or equivalent
A study of the theory and practice of the systems in an electronic office: records management, office environment, communication transmittal systems, reprographics, and office procedures.

BTED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

BTED 293 Practicum: Computer and Information Technology (CIT) **3c-0l-3cr**
Prerequisites: Completion of 45cr, to include all specialty and business core courses of the CIT major; 2.5 cumulative GPA, 2.75 GPA in the CIT program; and approvals of the CIT practicum coordinator, department chair, and academic dean
A culminating experience for CIT majors. A supervised work experience with an approved agency (business, industry, or government) designed to combine classroom theories and skills with job-related experiences. Works cooperatively with the CIT practicum coordinator and business agency representative to identify the appropriate work site and job responsibilities. A journal of experiences, periodic written reports, and a final report are the expected product.

BTED 309 Keyboarding for Educators **1c-0l-1cr**
Corequisite: BTED 312
Provides Business Education students with the fundamental skills to keyboard information quickly and accurately. Introduces the basic pedagogy of keyboarding in a K-12 classroom. Techniques of basic formatting, speed, and accuracy building are also covered. Course is open to Business Education majors only. (Offered as BTED 130 Keyboarding prior to 2003-04)

BTED 311 Methods in Business and Information Technology I **3c-0l-3cr**
Prerequisites: EDSP 102, PSYC 101, and completion of the freshman and sophomore courses in the student's major areas
Includes instruction in the general methods of teaching and evaluating business courses. Major emphasis is on the planning for instruction. Creative techniques and procedures for effectively teaching and managing the classroom are evaluated. Current issues in vocational education such as advisory committees, adult education, and federal legislation are included.

BTED 312 Methods in Business and Information Technology II **3c-0l-3cr**
Prerequisite: BTED 311
Corequisite: BTED 309

Emphasizes the development of methods and strategies for making effective classroom presentations and working with students in both the skill and cognitive areas. Students are provided opportunities to undertake the many responsibilities assigned to the business classroom teacher.

BTED 370 Technology Applications for Education **3c-0l-3cr**
Provides a prospective business educator with concepts, applications, and methodologies needed to be effective in today's classroom including advanced web page coding, advanced computer applications, creation of an inquiry-oriented activity in which the information that learners interact with comes from Internet resources, and a learned society's rules for records management. Also includes instruction in the pedagogy of computer applications. The end product of the course will be additions to students' e-portfolios.

BTED 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

BTED 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

BTST: Business Technology Support and Training
Department of Technology Support and Training
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

BTST 105 Introduction to Business **3c-0l-3cr**
An introduction to business, emphasizing critical issues impacting the business world, such as globalization, technology, ethics, and diversity. Provides an overview of the various functional areas of business and provides an understanding of the need for integration of those functional areas for success in business. Stresses experiential learning, develops team building skills, strengthens oral and written communication skills, and provides for personal interaction with university faculty. Provides an introduction to career opportunities and curriculum choices in business. (Offered as BTST 101 prior to 2004-05)

BTST 221 Business Technical Writing **3c-0l-3cr**
Prerequisite: ENGL 101
Application of business and technical writing styles, letters, memos, reports, procedures, and manuals are some areas of concern. Emphasizes clear, concise writing style. (May not be used as a substitute for BTST 321)

BTST 231 Speech Communication for Professionals **1c-0l-1cr**
Students study theory and principles of effective oral presentations in a professional setting. Content includes audience analysis, management of speech anxiety, topic selection and refinement, proper selection and use of visual aids, and speech forms. Students build professional presentation skills as they fulfill course assignments to develop, critique, and deliver professional presentations.

BTST 273 Hardware Support Solutions **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101
Emphasizes systems hardware, especially the microcomputer. Concepts and design principles common to all microprocessors are studied. Auxiliary hardware such as printers, modems, scanners, and laser technology will be included. Basic network technology concepts and peer-to-peer network configuration, maintenance, and troubleshooting are also included. (Offered as BTST 313 Office Systems Technologies prior to 2003-04)

BTST 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

BTST 310 Telecommunications **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101
Provides an introduction to telecommunications in the business environment. Includes an overview of electronic communication systems including a conceptual framework as well as hands-on experience. Concepts of telecommunications technology, applications, and management as they apply to business and industry are addressed.

BTST 311 Training Methods in Business and Information Technology Support **3c-0l-3cr**
Prerequisites: PSYC 101, junior standing
Includes the application of theories of adult learning to planning, delivering, and evaluating training for education and information technology. Major emphasis is on the planning of instruction. Topics include needs assessment; live and mediated instruction; classroom management; evaluation and follow-up methods; and evaluation of training strategies.

BTST 321 Business and Interpersonal Communications **3c-0l-3cr**
Prerequisites: ENGL 101, 202
A study of communication theory and principles as applied to business situations and practices; development of communication skills in areas of communication such as speaking, writing, listening, and nonverbal communicating. Emphasizes building effective interpersonal relations in a business environment.

BTST 342 Intercultural Business Communication **3c-0l-3cr**
Prerequisite: Junior standing
Provides an in-depth study and theoretical understanding of intercultural business communication, including international, national, ethnic, racial, and socioeconomic cultures. Explores practices, trends, and difficulties of people primarily identified with one culture, attempting to interact with people of another culture through speaking, listening, writing, and nonverbal means. Problems of intercultural communication situations for business are pinpointed, elements of the problems clarified, and guidelines projected for problem mitigation.

BTST 383 Microcomputer Software Solutions **3c-0l-3cr**
Prerequisite: BTST 273 or instructor permission
An in-depth study of all the salient functions and features of selecting, installing, configuring, and maintaining the microcomputer operating systems and resolving conflicts. Students also develop skills for installing, customizing, and optimizing a variety of application, multimedia, Internet, and utility software programs, as well as configuring, managing and troubleshooting PC security issues. (Offered as BTST 283 prior to 2003-04)

BTST 401 Web Design **3c-0l-3cr**
Focuses on web design research and experimentation with basic to leading-edge design techniques enabling the creation of user-focused web sites. Emphasizes web design techniques resulting in fast-loading and well-placed graphics, cohesive color and typography across platforms and browsers, clear navigational interface, and appropriate use of sound, animation, and video. A variety of software production programs are introduced and used.

BTST 402 Website Development and Administration **3c-0l-3cr**
Prerequisite: BTED/COMM/COSC/IFMG/LIBR 201 or instructor permission
Guides through a hands-on, step-by-step process of creating an attractive, well-designed website for an enterprise. Teaches how to install and configure a WWW server, publish web pages using the latest tools, and set up mechanisms to manage and update a website and content.

BTST 411 Technology Support Development **3c-0l-3cr**
Prerequisites: BTST 273, 383, and COSC/IFMG 352
Corequisite: BTST 413
Includes dimensions of study relative to a technical support center–facilities management, workplace ergonomics, end-user needs assessment, and end-user support. Incorporates practical applications for building customer care, technical, and reporting skills through the development of various projects, including needs analysis, computer documentation, ergonomic facility design, and project management.

BTST 413 Enterprise Technology Support **3c-0l-3cr**
Prerequisites: BTST 273, 383, COSC/IFMG 352 or instructor permission
Corequisite: BTST 411
Provides a comprehensive and practical knowledge of enterprisewide technology. Topics include knowledge management, remote user support, teleconferencing, and network management and enhancement. Hands-on experience working with software, customizing user environments, managing technology security, and enhancing and troubleshooting the computing environment.

BTST 480 Seminar in Business Technology Support **3c-0l-3cr**
Prerequisite: Graduating seniors only or instructor permission
Emphasizes solving of office management problems. Provides an opportunity to integrate and apply the skills and knowledge previously gained in the Business Technology Support major.

BTST 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students. (Offered as ADMS/OSYS 481 prior to 2001-02)

BTST 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

BTST 493 Internship **var-3-6cr**
Prerequisites: Approval of internship coordinator, chairperson, and dean and 2.75 cumulative GPA and 3.0 GPA in Business
A supervised office experience program with an approved agency (business, industry, and government).

CDFR: Child Development/Family Relations
Department of Human Development and Environmental Studies
College of Health and Human Services

CDFR 218 Child Development **3c-0l-3cr**
Prerequisite: PSYC 101
Focuses on the normal development and behavior of children. A survey made of physical, emotional, social, and intellectual development of children from conception through early adolescence. Pertinent child development research analyzed. (Offered as HMEC 218 prior to 2002-03)

CDFR 224 Marriage and Family Relations **3c-0l-3cr**
Prerequisite: PSYC 101
Focuses on principles of human relations basic to marital decisions and adjustment. Explores influence of community and family experiences on personal development and adjustment. (Offered as HMEC 224 prior to 2002-03)

CDFR 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students. (Offered as HMEC 281 prior to 2002-03)

CDFR 317 Infant Development **2c-2l-3cr**
Prerequisite: CDFR 218
A study of characteristic developmental changes of human infants from birth to approximately two and a half years. Participation as teacher assistant in infant/toddler child care center provides experience in developmentally appropriate guidance and planning for very young children. (Offered as HMEC 317 prior to 2002-03)

CDFR 321 Preschool Education **3c-0l-3cr**
Prerequisite: CDFR 218
An examination of the child development philosophy as the basis for the developmentally appropriate decisions and methods in preschool education programming. Emphasizes play as a developmental process and as the major aspect of the preschool curriculum. May not be interchanged with ELED 353. (Offered as HMEC 321 prior to 2002-03)

CDFR 324 Family Dynamics **3c-0l-3cr**
Prerequisite: CDFR 224 or equivalent
Emphasizes processes and models of family development topics. Focuses on approaches and dynamics of principles related to familial and marital adjustment and coping. (Offered as HMEC 324 prior to 2002-03)

CDFR 325 Youth, Family, and Society **3c-0l-3cr**
Prerequisites: CDFR 218, CDFR majors or by permission
Focuses on the parenting of adolescents and adolescents as parents. Special emphasis is given to identifying risk and resiliency factors when working with adolescents and families in the field of human services. A variety of human development theories are examined in an attempt to understand the adolescent from both an individual and a societal point of view.

CDFR 418 Advanced Child Development **3c-0l-3cr**
Prerequisite: CDFR 218
A study of trends and research in the field of child development based on a review of major theorists and current literature. (Offered as HMEC 418 prior to 2002-03)

CDFR 419 Teaching in Child Development Centers **2c-4l-4cr**
Prerequisite: CDFR 218 or equivalent
Techniques in planning for and teaching preschool children. Participation as teacher-assistant provides experience in applying principles of child guidance and development needed by teachers in preschool centers or secondary school child development laboratories. (Offered as HMEC 220 prior to 2002-03)

CDFR 422 Early Childhood Education **3c-0l-3cr**
Prerequisite: CDFR 218
Current educational theories and research reviewed in terms of implications for the preschool and their effect on material, equipment, and activity selection. (Offered as HMEC 422 prior to 2002-03)

CDFR 424 Family Issues **3c-0l-3cr**
Prerequisite: CDFR 224
A concentrated study of selected areas of family life, with emphasis on current personal and social issues affecting the family. (Offered as HMEC 424 prior to 2002-03)

CDFR 426 Techniques of Parent Education **3c-0l-3cr**
Prerequisite: CDFR 218 or ELED 215
An examination of nature, extent, and significance of parent education. Interrelationships of home, school, and community agencies are examined in light of various programs, methods, and techniques of parenting education. (Offered as HMEC 426 prior to 2002-03)

CDFR 427 Administration of Child Development Centers **3c-0l-3cr**
Prerequisite: CDFR 218 or equivalent, juniors or seniors only
Development of special knowledge and competencies needed by successful administrators of child care programs including proposal writing, budgeting, management, staff selection and training, appropriate curriculum materials,

philosophy, parent involvement, child advocacy, and program evaluation. (Offered as HMEC 427 prior to 2002-03)

CDFR 463 Family and the Community **3c-0l-3cr**
A study of community agencies and problems that affect families and their contributions to community. An investigation of ways group dynamics, communication media, and other resources aid understanding of human behaviors. Field experience is an integral part of the course. (Offered as HMEC 463 prior to 2002-03)

CDFR 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students. (Offered as HMEC 481 prior to 2002-03)

CDFR 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Upper-level students with high scholastic achievement pursue their particular interests outside the realm of the organized home economics education curriculum. May be taken more than once to a maximum of 3cr. Approval is based on academic appropriateness and availability of resources. (Offered as HMEC 482 prior to 2002-03)

CDFR 493 Internship **var-6-12cr**
Prerequisites: Permission of department, college dean, and university internship coordinator; upper-level standing
Practical experience related to the student's major area of study. Objectives are developed individually in consultation with a university faculty member who supervises the internship. Log and major paper required. May be repeated up to a total of 12cr; however, these credits are not applicable toward the 120cr required for graduation if student receives 12cr in student teaching. (Offered as HMEC 493 prior to 2002-03)

CHEM: Chemistry
Department of Chemistry
College of Natural Sciences and Mathematics

CHEM 101 College Chemistry I **3c-2l-4cr**
Basic principles and concepts of inorganic chemistry are developed from the standpoint of atomic and molecular structure with illustrative examples from descriptive chemistry. The laboratory portion of the course illustrates physical and chemical properties in a qualitative and quantitative manner. Designed for selected majors within the College of Health and Human Services and to fulfill the Liberal Studies Natural Science Laboratory Sequence requirement.

CHEM 102 College Chemistry II **3c-2l-4cr**
Prerequisite: CHEM 101
Basic fundamental principles and concepts of organic and biochemistry are developed. Deals primarily with structural features of organic compounds, the chemistry of functional groups, and practical examples and uses of organic compounds. The laboratory portion illustrates properties and reactions of representative organic compounds. Designed for selected majors within the College of Health and Human Services and to fulfill the Liberal Studies Natural Science Laboratory Sequence requirement.

CHEM 111 General Chemistry I **3c-3l-4cr**
A lecture-discussion of principles of chemistry, including theory and applications. The lab illustrates principles discussed. Topics discussed include scientific measurements, simple definitions and concepts, the mole, stoichiometry, gas laws, electronic structure of the atom, bonding, thermochemistry, and descriptive chemistry of the elements.

CHEM 112 General Chemistry II **3c-3l-4cr**
Prerequisite: CHEM 111
A continuation of General Chemistry I. Topics discussed include the solid and liquid state, solutions, kinetics, equilibria, acids and bases, solubility equilibria, thermodynamics, electrochemistry, and descriptive chemistry of the elements.

CHEM 113 Concepts in Chemistry I **3c-3l-4cr**
An introductory course for Chemistry majors. The first half of a two-semester sequence designed to provide the foundation of knowledge and laboratory techniques required to successfully complete a chemistry degree program. Topics include atomic theory, an introduction to chemical reactions, stoichiometry, thermochemistry, chemical bonding, and molecular geometry, transition metal complexes, polymers, and biomolecules.

CHEM 114 Concepts in Chemistry II **3c-3l-4cr**
Prerequisite: CHEM 111 or 113
An introductory course for chemistry majors. This is the second half of a two-semester sequence designed to provide the foundation of knowledge and laboratory techniques required to successfully complete a chemistry degree program. Topics include kinetic-molecular theory of gases, the liquid and the solid states, solution theory, kinetics, equilibrium, thermodynamics, acids and bases, and electrochemistry.

CHEM 116 Basic Inorganic Chemistry **3c-3l-2cr**
Prerequisites: CHEM 111 and 112
Required for chemistry majors who have taken CHEM 111 and 112. A systematic study of the chemistry of the elements is presented in both the lecture and the laboratory. Also includes the chemistry of coordination compounds. Starts at the beginning of the second half of the spring semester and is taught concurrently with CHEM 114.

CHEM 214 Intermediate Inorganic Chemistry **1c-3l-2cr**
Prerequisite: CHEM 112 or 114
Presents the characteristic reactions and compounds of elements from across the periodic table. For the main-group elements, both discrete molecular compounds and non-molecular materials are discussed. For the alkali, transition and inner-transition metals, the focus is on non-molecular species such as ionic compounds, ceramics, superconductors and other inorganic-based materials. Also presents the solid-state structure of inorganic-based materials. Uses laboratory activities to reinforce concepts presented in lecture and to stimulate interest through discovery-based exercises.

CHEM 231 Organic Chemistry I **3c-4l-4cr**
Prerequisite: CHEM 112 or 114
A study of compounds of carbon, with a special emphasis on structure-reactivity relationships. Laboratory work emphasizes methods of separation and purification of organic compounds.

CHEM 232 Organic Chemistry II **3c-4l-4cr**
Prerequisite: CHEM 231
A continuation of Organic Chemistry I with an introduction to spectroscopic techniques. Laboratory work emphasizes the synthesis of representative compounds.

CHEM 255 Biochemistry and Nutrition **3c-0l-3cr**
Prerequisite: CHEM 102
For Family and Consumer Sciences Education majors. Studies chemistry and biological function of biologically active compounds with respect to nutritional requirements.

CHEM 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

CHEM 301 Introduction to Chemical Research **1c-0l-1cr**
A discussion of current technical literature and current research problems of faculty members. Lectures by outside chemists and student presentations are included. Open to junior or senior chemistry majors and to others by chairperson permission. (Titled Chemistry Seminar prior to 2003-04)

CHEM 321 Quantitative Analysis **3c-4l-4cr**
Prerequisite: CHEM 112 or 114
Theory and practice of quantitative analysis, including gravimetric and volumetric analysis; a special emphasis on perfecting laboratory techniques and application of general chemical knowledge through problem solving.

CHEM 322 Instrumental Analysis **3c-4l-4cr**
Prerequisite: CHEM 341
Modern instrumental methods of chemical analysis. Teaches theory behind the instrument, principles of operation, interpretation of data obtained, and limitations of methods.

CHEM 323 Analytical Methods **3c-4l-4cr**
Prerequisites: CHEM 112 and non-Chemistry major
Principles of precipitation, acid-base, oxidation-reduction, and equilibria are applied to problem solving and to laboratory determinations; instrumental methods of analysis, such as colorimetry, atomic absorption and flame emission, gas chromatography, etc.

CHEM 331 Organic Molecular Structure Determination **4c-var-3cr**
Prerequisites: CHEM 231-232 (CHEM 232 may be taken concurrently)
Gives the student experience in systematic identification of various classes of organic compounds by both chemical and physical methods.

CHEM 335 Advanced Organic Chemistry **3c-0l-3cr**
Prerequisites: CHEM 232 and 341
Selected topics of current interest covered. Possible topics include reaction mechanisms, molecular spectroscopy, stereochemistry, natural products, heterocyclics, polymer chemistry, and organic synthesis.

CHEM 340 Physical Chemistry for the Biological Sciences **3c-0l-3cr**
Prerequisites: MATH 122 or 124 or 128, and PHYS 112 or 132; CHEM 232
A one-semester course for Biochemistry and Biology majors. Chemical thermodynamics, equilibria, kinetics; quantum mechanics; and spectroscopy especially as applied to biomechanical systems.

CHEM 341 Physical Chemistry I **4c-0l-4cr**
Prerequisites: MATH 122, 124, or 128 and PHYS 112 or 132; CHEM 112 or 114
Chemical thermodynamics with applications to solutions, phase, and chemical equilibria-kinetic theory.

CHEM 342 Physical Chemistry II **3c-0l-3cr**
Prerequisite: CHEM 341
A study of solids, liquids, surfaces, chemical kinetics, electrochemistry, atomic and molecular structure.

CHEM 343 Physical Chemistry Laboratory I **0c-3l-1cr**
Prerequisites: CHEM 321, 341
Experiments illustrating application of fundamental laws to actual systems. Carries writing-intensive credit

CHEM 344 Physical Chemistry Laboratory II **0c-3l-1cr**
Prerequisites: CHEM 342, 343
An extension of Physical Chemistry Laboratory I, experiments related to chemical kinetics, molecular spectroscopy, and other topics of physical chemistry.

CHEM 351 Biochemistry **4c-0l-4cr**
Prerequisite: CHEM 231
A study of chemistry and biological functions of carbohydrates, lipids, proteins, minerals, vitamins, and hormones.

CHEM 410 Advanced Inorganic Chemistry Laboratory **0c-3l-1cr**
Prerequisite: CHEM 322
A laboratory course in which the techniques used in the synthesis and characterization of inorganic compounds are explored. Emphasizes the preparation of a wide variety of inorganic compounds and the methods by which they are identified and characterized

CHEM 411 Advanced Inorganic Chemistry **3c-0l-3cr**
Prerequisite: CHEM 341
A study of advanced principles of inorganic chemistry including atomic structure, symmetry, advanced bonding theories, acids and bases, coordination chemistry, and organometallic chemistry.

CHEM 412 Advanced Structural and Synthetic Methods in Inorganic Chemistry **2c-2l-3cr**
Prerequisites: CHEM 411 and either CHEM 410 or 322
Advanced techniques used in the synthesis and characterization of inorganic compounds are explored. In lecture, an emphasis is on the theory and application of structural and spectroscopic methods of characterization. In lab, an emphasis is on advanced methods of synthesis and structural characterization using representative examples of important classes of inorganic compounds.

CHEM 421 Advanced Instrumental Analysis **4c-var-3cr**
Prerequisite: CHEM 322
A study of modern chemical analysis, using advanced instrumental techniques; with an emphasis on theory, principles of operation, capabilities, and limitations of advanced analytical instruments used.

CHEM 441 Advanced Physical Chemistry **3c-0l-3cr**
Prerequisite or Corequisite: CHEM 342
A study of fundamental ideas of quantum and statistical mechanics, molecular structure, and other topics of current interest.

CHEM 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

CHEM 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

CHEM 493 Internship in Chemistry **var-4-9cr**
Prerequisites: CHEM 113, 114, 231, 232, 321, 341, and departmental approval
Full-time involvement in an actual "on-the-job" situation in an industrial or research laboratory under the tutelage of a selected preceptor. A department faculty member works closely with the student and preceptor and assumes responsibility for making the final evaluation and assigning a grade.

CHEM 498 Problems in Chemistry **var-1-2cr**
Prerequisite: CHEM 231 and permission of chairperson
A course of supervised undergraduate research, in conjunction with a faculty member in the chemistry department.

CHEM 499 Problems in Chemistry Education **var-1sh**
Prerequisite: Chemistry Education major; permission of chairperson
A course of independent study on selected problems in chemistry education, including library reading, lab work, and conferences with a chemistry education faculty member who is supervising the study.

CHSS: College of Humanities and Social Sciences

CHSS 489 Honors Colloquium **3c-0l-3cr**
Prerequisites: Admission to a Departmental Honors Program in the College of Humanities and Social Sciences, HNRC 201, or instructor permission
A multidisciplinary colloquium emphasizing problem-solving, discussion, reading, and writing on a topic or theme that will vary from semester to semester according to the expertise of the faculty member(s) teaching the course. Could focus on an issue that would be explored from a number of

multidisciplinary perspectives, or bring related disciplines together to cover issues that spring from a common methodological technique. Open to all students who have been admitted to the Departmental Honors Program in their major, Robert E. Cook Honors College students who have completed HNRC 201 and, with instructor permission, to other juniors or seniors who have an overall GPA of at least a 3.5.

CNSD: Counseling and Student Development
Counseling Center
Student Affairs Division

CNSD 150 Life Skills: Improving Your Social and Emotional Intelligence **1c-01-1cr**
Prerequisite: Instructor permission
Provides practical, hands-on, cognitive, emotional, and interpersonal skills which help them to increase their abilities to process and respond to environmental demands and stresses of their social and academic environment. These skills include mindfulness, emotion regulation, behavior management, and handling relationships by understanding emotions in others. The goals are to understand basic principles of emotion regulation and interpersonal effectiveness, improve students' ability to focus, and attend to one's own thoughts and feelings as they apply to the skills described above.

CNSV: Consumer Affairs
Department of Human Development and Environmental Studies
College of Health and Human Services

CNSV 101 Personal and Family Management **3c-01-3cr**
Management as a system and its relationship to individuals and families. Formulation of goals, values, and standards; use of decision-making process; utilization of resources.

CNSV 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

CNSV 315 Consumer Economics and Family Finance **3c-01-3cr**
Economic, sociological, and psychological principles are applied to family money management problems. Information needed to manage finances effectively and to become a rational consumer is presented.

CNSV 413 Problems in Consumer Economics **3c-01-3cr**
Prerequisite: CNSV 315 or Economics
Problems of consumer-seller relationships studied with an emphasis given to effects of current economic and social forces. Governmental and private protection agencies which aid the consumer are reviewed. Individual investigations required.

CNSV 416 Problems in Family Finance **3c-01-3cr**
Prerequisite: CNSV 315
In-depth theories and principles in personal and family finance and the rights and responsibilities of consumers are emphasized. Opportunities are provided to explore specific areas of interest.

CNSV 433 Study Tour **var-1-6cr**
Prerequisite: Upper-level standing
An opportunity is provided to visit business establishments and cultural centers concerned with household equipment, furnishings, textiles, clothing, and housing in America as well as abroad. Museums, factories, designers' showrooms, distribution centers, stores, cultural events, and seminars are included. May be repeated for a total of 6cr. (Cross-listed as FSMR/INDS 433)

CNSV 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

CNSV 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Particular consumer considerations are independently investigated in the area of housing, home equipment, interior design, clothing, and textiles or in the management of resources. Course may be repeated for a total of 3cr. Students meet with a faculty member at least 5 hours per credit.

CNSV 493 Internship **var-1-12cr**
Prerequisites: Approval of instructor and department chairperson; upper-level standing
A practical experience related to the student's major area of study with objectives, supervised experience, and evaluation. Course may be repeated for a total of 12cr.

COMM: Communications Media
Department of Communications Media
College of Education and Educational Technology

COMM 101 Communications Media in American Society **3c-01-3cr**
Required of Communications Media majors. An introduction to the evolution, status, and future of communications media. Explores intrapersonal communication through self-assessment, values clarification, and feedback; interpersonal communication through interviews, observations, case studies, and gaming; and mass communications through the examination of the processes and the technology utilized to disseminate and manage information. Career paths, field applications, professional associations, and the primary literature are investigated.

COMM 103 Digital Instructional Technology **3c-01-3cr**
Prerequisite: Education major
Introduces freshman pre-service teachers to the ever-changing world of digital instructional technology. Learners are exposed to computer-based tools of the trade used by teachers in the delivery and management of instruction. Does not count towards credits needed for COMM major.

COMM 150 Aesthetics and Theory of Communications Media **3c-01-3cr**
Prerequisite: COMM 101
Examines the theoretical assumptions of sight, sound, and motion as applied to the design of communication products for different media formats. Within the course, strategies for creative composition are demonstrated. Psychological and physiological implications of images are discussed.

COMM 201 Internet and Multimedia **3c-01-3cr**
Prerequisite: BTED/COSC/IFMG 101 or prior exposure to word processing and electronic mail
Focuses on the evaluation of information and multimedia resources available on electronic networks when doing research in an area of one's choice. Information literacy course is designed for students to gain a more in-depth understanding of the information resources available electronically and of how to utilize them more effectively in communicating. Students learn how to access and utilize these resources for two-way communications and support for decision making while incorporating selected elements in multimedia presentations of their own design. (BTED/COMM/COSC/IFMG/LIBR 201 may be used interchangeably for D or F repeats and may not be counted for duplicate credit.)

COMM 205 Media Presentation Skills **3c-01-3cr**
Prerequisites: COMM 150, COMM majors only
Introduces basic presentation skills, emphasizing the use of media to enhance presentations. Students research, organize, and write presentations, design appropriate media, and deliver presentations in various settings, including to large groups, on camera and in groups with other students.

COMM 230 Issues in International Communication **3c-01-3cr**
A survey of international communications with particular emphasis on communications flow, four-press theories, ownership, structure and access

to media, government/media relationships, and the impact of communications on developed and developing countries.

COMM 240 Communications Graphics **3c-01-3cr**
Prerequisite: COMM 101 or permission
An introduction to graphic design concepts and related processes and techniques for a variety of forms of presentation media including television, multimedia, and on-line communications for educational, corporate training, and communications specialists. Both two- and three-dimensional design and basic animation concepts are explored. Hands-on experiences using a variety of graphic software applications.

COMM 249 Basic Audio Recording Techniques **3c-01-3cr**
Prerequisites: COMM 101, permission
Theory and practice of recording sound, developing an understanding of the language of sound recording as well as the ability to make sound recordings. Offers exposure to recording for various media including radio, music, motion pictures, television, and multimedia production. Material also appropriate for teachers who wish to make use of tape recorder in the classroom. Provides hands-on experience through labs and projects to be completed outside of class. Students are expected to provide an audio tape recorder.

COMM 251 Television Production **3c-01-3cr**
Prerequisites: COMM 101, permission
Develops basic skills in television production and direction. Consideration of operating problems of a television studio, as well as functions, limitations, and capabilities of television equipment and facilities.

COMM 271 Beginning Photography **3c-01-3cr**
Prerequisite: COMM 101 or permission
Working with black-and-white materials, the student learns to operate a camera, develop film, make contact prints and enlargements, and mount prints for display. Ancillary topics are introduced such as filtration, print spotting, flash, and the use of accessory lenses. Student is required to have a 35mm camera, preferably a single-lens reflex, with fully manual focusing and exposure capability.

COMM 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

COMM 302 Research in Communications Media **3c-01-3cr**
Prerequisites: COMM 150, ENGL 101 and 202 (grade of C or better)
Provides knowledge of the resource materials and research strategies used in the communications media field. Students design basic data gathering instruments, collect data, and assimilate information from various sources and data into communication products, services, or documents.

COMM 303 Scriptwriting **3c-01-3cr**
Prerequisites: COMM 101, ENGL 101 and 202 (grade of C or better) or instructor permission
An introduction to the design of media materials and script writing. Style and techniques of writing are analyzed. Classroom emphasis is on writing, critiques, and revision of designs and scripts. Scripts for audio, multimedia presentations, and motion picture and television productions will be written.

COMM 305 Electronic Media Programming and Sales **3c-01-3cr**
Prerequisite: COMM 150
Explores two primary functions of the electronic media: providing programming for audiences and providing economic viability to media outlets by selling commercial time to clients. Explores topics such as program development, scheduling, and promotion. Also explores the basic strategies used in the electronic media to sell commercial time and the use of audience and ratings analysis in the processes of programming and sales.

COMM 330 Instructional Design for Training and Development **3c-01-3cr**
Prerequisites: COMM 101, ENGL 101 and 202 (grade of C or better) or permission or instructor
Examines the systems approach for the design, development, and evaluation of instructional material. Students learn about the history of instructional design and development and the current status of the field. Each student produces a self-instructional prototype that requires the student to systematically and creatively apply the concepts and rules learned.

COMM 335 Communications Consulting and Project Management **3c-01-3cr**
Prerequisite: COMM 101
Presents the theoretical views and clinical applications of consulting skills and practices associated with and needed by communication professionals. Presented are the functions and role of the consultant, the client's perspective on consulting, hiring a consultant, ethics in consulting, personal assessment tests, and related literature and models.

COMM 340 Advanced Communication Graphics **3c-01-3cr**
Prerequisites: COMM 240, permission
Provides in-depth experience in planning and preparing graphic materials commonly used in the communications profession; graphic materials include design, photosketching, lettering, slide titling and duplication, preparation of camera-ready art, lithographic film and master layout sheets, professional slide flat production and photocopy, large-format transparency production, color key, and color systems.

COMM 345 Television Criticism **3c-01-3cr**
Prerequisite: COMM 150 or instructor permission
The medium of television offers a unique environment for development and delivery of information, entertainment, and news. Explores and analyzes television programming. Includes examination of genres ranging from situation comedy to drama, to mini-series and made-for-TV movies.

COMM 349 Radio Production **3c-01-3cr**
Prerequisite: COMM 150 or instructor permission
An introduction to production techniques as they pertain to radio. The student is exposed to programming, scripting, producing programs, intros, outros, commercials, public service announcements, station identifications, and promotional announcements. Also deals with the interaction of a radio station with national networks and with the real-life concerns of deadlines.

COMM 351 Advanced Video Production **3c-01-3cr**
Prerequisite: COMM 251
A production course that emphasizes advanced field production techniques. Some topics include field lighting, video post-production editing with A-B roll, on-line editing, and nonlinear editing. Provides hands-on experience through projects and field trips.

COMM 354 Broadcast Regulation **3c-01-3cr**
Prerequisite: COMM 150 or instructor permission
Delves into the areas of law affecting broadcasters. Covers laws pertaining to cable television, station licensing and renewal, political broadcasting, libel, copyright, the right of reply, and privacy. Examines the historical development of the FCC and its jurisdictions. Discusses case studies along with the relevancy of some laws as they pertain to today's society.

COMM 371 Photography II: The Print **3c-01-3cr**
Prerequisites: COMM 271, permission
Students develop camera and print-making skills to the degree that they can produce salon-quality photographic prints. Students will understand the photographic processes utilized in producing a high-quality negative and print to the extent that they can manipulate those processes to communicate an intended message with their photographs. Emphasizes camera and print control as well as composition and negative and print manipulation.

COMM 375 Mass Media and Behavior **3c-01-3cr**
Prerequisites: PSYC 101 and junior or senior status
Theory and research on the influence of the mass media on human behavior and attitudes. Topics include the effects of news and political

advertising on public opinion; the effects of racist and sexist portrayals; and the effects of violence and pornography on aggressive behavior. (Also offered as PSYC 375; may be taken only once)

COMM 380 The History of African Americans in Film **3c-0l-3cr**
Traces the historical development of the roles of African Americans in film and television. Examines the early stereotypic portrayals of this group, the origins of these stereotypes, and the ongoing changes, positive and negative, that have occurred regarding the media representation through research, film, and archetypal analysis, observation, and discussion. The new generation of African American filmmakers and their creative efforts to promote more realistic portrayals are analyzed.

COMM 390 Practicum in Communications **var-1-3cr**
Prerequisites: COMM 101, written permission
An opportunity with credit for students to make contributions to department and campus media-related facilities and offices including WIUP-TV, WIUP-FM, *Penn*, Media Relations, and Media Resources. Repeatable for a maximum of 6cr.

COMM 395 Career Planning in Communications Media **1c-0l-1cr**
Prerequisite: Minimum 20 COMM credits
Serves as a primary skill-building and strategy-seeking experience for the internship program and later career entry and growth. Extensive writing, research, and individual counseling are involved. Travel may be necessary.

COMM 403 Broadcast Newswriting **3c-0l-3cr**
Prerequisites: COMM 101, ENGL 101 and 202 (grade of C or better) or instructor permission
Acquaints students with the various styles and script formats used in writing news scripts for radio and television. Includes instruction in writing news stories for radio and television and an introduction to broadcast news production. Students practice and work to improve writing skills in this area of broadcast writing.

COMM 405 Process of Digital Game Development **3c-0l-3cr**
Prerequisite: Junior/senior standing or instructor permission
Examines the theory and development of digital games. Explores the logics of gameplay, the process of game development, gaming technology, and the psychology of gaming. Also examines the history and organization of the gaming industry. Students also create deliverables around a game concept they develop in the process of completing the course.

COMM 408 Media Field Studies **3c-0l-3cr**
Prerequisites: COMM 101, junior standing, and instructor permission
A hands-on course designed to help the students learn about the production process involving on-location production. Has three distinct phases: students begin with research and pre-production tasks on campus; students may travel to a remote site to collect additional information and images and use those images to complete a production; and students are responsible for travel expenses. (Offered as CM 401 prior to 2000-2001)

COMM 440 Multimedia Production **3c-0l-3cr**
Prerequisite: COMM 240 or instructor permission
The student learns the processes and techniques of planning, designing, and producing used with interactive multimedia. Provides hands-on experiences in the use of graphics, audio, animation, video, and authoring software applications to produce an aesthetically acceptable product that meets specific objectives. Designed to meet the needs of educational media, corporate training, and communications specialists.

COMM 445 Applications and Techniques of Motion Pictures **3c-0l-3cr**
Prerequisite: COMM 150 or instructor permission
A survey of the role that motion picture film production plays in society. A major emphasis is on the variety of applications with special consideration given to motion pictures as a tool to support research.

COMM 449 Advanced Audio Recording Techniques **3c-0l-3cr**
Prerequisites: COMM 249, permission
Sound recording utilizing advanced techniques and concentrating on specific applications. Student participates in an intensive lab experience utilizing the most advanced equipment available. Emphasizes application, editing, signal processing, and multi-track recording. Student is expected to produce a sound recording for a specific use of professional quality.

COMM 451 Broadcast News Process **3c-0l-3cr**
Prerequisites: COMM 251, 349, permission
Reporting and presenting radio and TV news programs. Analysis of news and public affairs broadcasting.

COMM 460 Emerging Trends in Communication Technology **3c-0l-3cr**
Prerequisite: COMM 150
An introduction to the ever-changing world of telecommunication technologies, focusing on modern, computer-driven modes of information exchange. Provides an opportunity to synthesize several of the technologies covered and integrate them into a workable solution to a practical telecommunication problem.

COMM 470 Management Practices in Electronic Communications **3c-0l-3cr**
Prerequisites: COMM 150, any COMM writing-intensive course, and junior or senior standing
Presents the theory and practice of media management. Areas covered include problem-solving, documenting and reporting, career systems, budgeting, personnel, ownership, unionization, market analysis, and special topics as directly related to communications media industries. Students conduct case study research related to their career direction.

COMM 471 Electronic Imaging **3c-0l-3cr**
Prerequisite: COMM 271 or permission
An introduction to the use of electronic still photography (ESP) for the capture, recording, and transfer of still images and the use of computers for the storage, manipulation, and output of color and black and white photography. Extensive training in the use of software packages for image enhancement, restoration, and manipulation will be provided. Students learn the applications of this technology to the print media and examine the ethical and legal issues of image manipulation.

COMM 475 Senior Portfolio Presentation **1c-0l-1cr**
Prerequisites: Communications Media majors only and COMM 395
Students compile and present a series of works produced through previous Communications Media courses and activities. The result is a portfolio suitable for presentation to a potential employer. The portfolio may include examples of student works from a variety of subject areas.

COMM 480 Seminar in Communications Media **3c-0l-3cr**
Prerequisites: Junior or senior standing, other prerequisites as appropriate to course content.
A seminar in selected communications issues or problems. Includes the reading and review of the current literature as appropriate to the major topic presented in the seminar.

COMM 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

COMM 493 Internship **var-6, 9, 12cr**
Prerequisites: COMM 395, department approval
Supervised professional summer work experience in communications media. Sites reflect the academic goals of the department and are approved and administered by a department coordinator. Location, duties, length of internship, and hours are individually tailored to student career goals. Sites represent wide application of process and technology of communications in business, education, allied health, or other agencies. Students must complete 40 hours of the internship work experience per credit earned. A

maximum of 15cr is applicable to an undergraduate degree program from any combination of internship and practicum experience.

COSC: Computer Science
Department of Computer Science
College of Natural Sciences and Mathematics

COSC 101 Microbased Computer Literacy **3c-0l-3cr**
An introductory course designed to provide fundamental understanding of computers. Familiarizes students with the interaction of computer hardware and software. Emphasizes the application of microcomputers, the use of productivity software (word processing, spreadsheet management, file and database management, presentation graphics, web browsers, search strategies, and e-mail), and the social and ethical aspects of the impact of computers on society. (Does not count toward Computer Science major.) Note: cross-listed as BTED and IFMG 101. Any of these courses may be substituted for each other and may be used interchangeably for D or F repeats but may not be counted for duplicate credit.

COSC 105 Fundamentals of Computer Science **3c-0l-3cr**
The first course for Computer Science majors. Required of all Computer Science students and appropriate for other Natural Sciences and Mathematics students. Topics include the fundamental concepts of computer architecture, algorithm development and analysis, programming languages, software engineering, data organization and representation, and systems software. Hands-on introduction to computer usage with an emphasis on terminology and the underlying connections within the discipline.

COSC 110 Problem Solving and Structured Programming **3c-0l-3cr**
For Science, Mathematics, and Computer Science majors and for others who have a sufficiently quantitative orientation. Basic structure of modern digital computers; problem analysis and computer solution using flowcharting and the C++ language. Exemption or credit by examination possible.

COSC 201 Internet and Multimedia **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101 or prior exposure to word processing and electronic mail
Focuses on the evaluation of information and multimedia resources available on electronic networks when doing research in an area of one's choice. Information literacy course is designed for students to gain a more in-depth understanding of the information resources available electronically and of how to utilize them more effectively in communicating. Students learn how to access and utilize these resources for two-way communications and support for decision making while incorporating selected elements in multimedia presentations of their own design. (BTED/COMM/COSC/IFMG/LIBR 201 may be used interchangeably for D or F repeats and may not be counted for duplicate credit.)

COSC 205 Programming Languages for Secondary Education **3c-0l-3cr**
Prerequisite: Education major
Provides an introduction to the three high-level programming languages most commonly used in secondary education: Pascal, LOGO, and BASIC, with particular emphasis on Pascal. Also includes a comparative study of the control structures and data structures present in these three languages. Intended to establish a solid foundation to prepare prospective teachers of computing courses K-12. (Note: Previous experience with microcomputers is strongly recommended. Does not count toward a Computer Science major. Credit toward graduation is not given if this course is taken after completing 6cr or more of COSC courses.)

COSC 210 Object-Oriented and GUI Programming **3c-0l-3cr**
Prerequisite: COSC 110
An in-depth introduction to the Object-Oriented Programming (OOP) paradigm. Focuses on designing, implementing, and using objects. Covers function and operator overloading, templates, inheritance, and polymorphism. Also includes an introduction to Graphical User Interface (GUI) design and programming.

COSC 220 Applied Computer Programming **4c-0l-4cr**
Prerequisite: COSC 110 or equivalent.
Structured programming principles and techniques, as implemented through the ANSI COBOL language; program design using top-down techniques; program and project documentation; introduction to sequential and random file algorithms and integrated file systems.

COSC 250 Introduction to Numerical Methods **3c-0l-3cr**
Prerequisites: COSC 110, MATH 122 or 123 or 127
Algorithmic methods for function evaluation, roots of equations, solutions to systems of linear equations, interpolation, curve fitting, numerical differentiation and integration; errors in computation. Introduction to FORTRAN90 programming and introduction to the use of a mathematical software package to graph functions.

COSC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

COSC 300 Assembly Language Programming **3c-0l-3cr**
Prerequisite: COSC 110 or equivalent
An examination of structure and languages of machines; representation of data, addressing techniques, symbolic coding, assemblers, macros, etc.; problem solution using assembly language.

COSC 304 Interactive Internet Programming with Java **3c-0l-3cr**
Prerequisite: COSC 110 or equivalent
An introduction to interactive Internet programming using Java. Focuses on writing platform-independent multimedia applications that are useable across the Internet. Uses a write-once, run-anywhere approach while providing adequate security. Covers event-based processing, multithreading, MIME file handling, exception handling, sandbox security, networking, and component architectures.

COSC 310 Data Structures and Algorithms **3c-0l-3cr**
Prerequisite: COSC 210
Fundamental concepts of data design and implementation, data abstraction, data structures, arrays, linked-lists, stacks, queues, recursion, trees, graphs, and hashing. Also covers sorting algorithms, divide and conquer techniques, greedy methods, and analysis of algorithms. The object-oriented paradigm is employed using an object-oriented language.

COSC 315 Large File Organization and Access **3c-0l-3cr**
Prerequisite: COSC 220
The organization of large computer files for business systems, information systems, and other applications. The use of advanced COBOL for efficient file access. An evaluation of file access methods and directory organization. An introduction to random file algorithms and integrated file systems.

COSC 316 Cybersecurity Basics **3c-0l-3cr**
Prerequisites: COSC 110 or equivalent programming course, junior standing or instructor permission
Provides an introduction to the theory and concepts of computer security in networked systems. Looks at security issues and policies with regard to hardware, software development, databases, operating systems, and networks as well as the use of encryption. The more common attacks on systems are covered. Vulnerability assessment tools and techniques for defending systems are explored in various projects.

COSC 319 Software Engineering Concepts **3c-0l-3cr**
Prerequisites: COSC 220 and 310 or instructor permission
Software engineering concepts include the collection of tools, procedures, methodologies, and accumulated knowledge about the development and maintenance of software-based systems. Strongly suggested for any student planning to take an internship in COSC. After an overview of the phases of the software lifecycle, current methodologies, tools, and techniques being applied to each phase is discussed in depth with localized exercises given to reinforce learning of concepts.

COSC 320 Software Engineering Practice **1c-2d-3cr**
Prerequisite: COSC 319 or instructor permission
Planning, design, and implementation of large software systems using software engineering techniques. Students work in project teams on real or realistic software development projects. Credit for either COSC 320 or 493 may count toward computer science major requirements for graduation but not both; the other course credits are free electives.

COSC 341 Introduction to Database Management Systems **3c-0l-3cr**
Prerequisites: COSC 220 (or equivalent) and 310 or instructor permission
A study of database concepts. A detailed study of information concepts and the realization of those concepts using the relational data model. Practical experience gained designing and constructing data models and using SQL to interface to both multi-user DBMS packages and to desktop DBMS packages. (Offered as COSC 441 prior to 2002-03)

COSC 344 Productivity Tools and Fourth Generation Language **3c-0l-3cr**
Prerequisite: COSC 341 or IFMG 450
Develop an understanding of productivity issues and how Fourth Generation Languages (4GL) improve productivity as contrasted with 3GLs. Advances in the programming paradigm such as event-driven programming, objects, reusability, graphical user interface (GUI) design and development, information systems based on relational databases, and client/server technology are addressed. Students gain a practical experience with these concepts through an in-depth study of Visual Basic and the development of a GUI interface to a relational database using Visual Basic. (Offered as COSC 444 prior to 2002-03)

COSC 345 Data Communications **3c-0l-3cr**
Prerequisites: COSC 110 or 220; MATH 121 or 123; MATH 214 or 216 or 217; or equivalents
Communication of digital data between computers and to and from terminals and other peripherals; computer networks; small design projects or term paper.

COSC 352 LAN Design and Installation **3c-0l-3cr**
Prerequisite: IFMG 250 or BTST 273 or any COSC course numbered 300 or higher
A study of fundamental local area networking concepts. A detailed study of the basics of local area network (LAN) technology. Comparative study of commercially available LAN systems and products. Features a hands-on laboratory implementation of a LAN. Cross-listed as IFMG 352. Either course may be substituted for the other for D/F repeats but may not be taken for duplicate credit.

COSC 354 Testing and Controlling LANs **3c-0l-3cr**
Prerequisite: COSC 352 or IFMG 352 or equivalent
Explores local area network (LAN) topologies and their associated protocols. Introduces ways of interconnecting, securing, and maintaining LANs. Provides students with hands-on experience in the interconnection of multiple LANs. Also presents a hands-on approach to design, testing, and administration of interconnected LANs. Cross-listed as IFMG 354. Either course may be substituted for the other for D/F repeats but may not be taken for duplicate credit.

COSC 355 Computer Graphics **2c-1l-3cr**
Prerequisites: COSC 310 and junior status
The use of computer graphics hardware and software. An overview of current applications and experience with representative software will introduce current practice. Foundations in primitives, geometry, and algorithms of passive computer graphics are the principal focus. A brief introduction to interactive computer graphics is included.

COSC 356 Network Security **3c-0l-3cr**
Prerequisite: COSC 316 or COSC/IFMG 352
Explores mechanisms for protecting networks against attacks. Emphasizes network security applications that are used on the Internet and for corporate networks. Investigates various networking security standards and explores methods for enforcing and enhancing those standards.

COSC 360 IBM Job Control Language **1c-0l-1cr**
Prerequisite: COSC 220 or instructor permission
A detailed study of the job control language (JCRLG) of the IBM OS operating system; comparison of OS with the locally available DEC operating system, VAX VMS.

COSC 362 Unix Systems **3c-0l-3cr**
Prerequisite: COSC 310 or instructor permission
An introduction to the features, syntax, applications, and history of Unix. Coverage includes utilities, system administration, development environments, and networking concerns including distributed systems, client-server computing, and providing Web services.

COSC 380 Seminar on the Computer Profession **0c-1d-1cr**
Prerequisite: Permission
Reading, review, and discussion of the current literature of computer science and industry trade journals; effective oral presentations; employment prospects. Should be taken the semester before an internship or the first semester of the senior year. Should not be taken at the same time as COSC 480.

COSC 405 Artificial Intelligence **3c-0l-3cr**
Prerequisite: COSC 310
An introduction to the field of artificial intelligence, i.e., the study of ideas that enable computers to process data in a more intelligent way than conventional practice allows. Covers many information representation and information processing techniques. Explores the underlying theory including matching, goal reduction, constraint exploration, search, control, problem solving, and logic.

COSC 410 Processor Architecture and Microprogramming **3c-0l-3cr**
Prerequisites: COSC 300 and 310
The logical description of computer processor structure (architecture), with an emphasis on the microprogramming approach. Project assignments using minicomputer.

COSC 415 Internet Architecture and Programming **3c-0l-3cr**
Prerequisites: COSC 304 and 310 or instructor's approval
Corequisite: COSC 341
Covers the fundamental architecture of Internet systems and the process of developing computer applications running on the Internet in general and on the World Wide Web in particular. Students first gain basic understanding of the TCP/IP protocols and the client/server technology. Methods, languages, and tools for developing distributed applications on the Internet are evaluated. Programming projects developing distributed applications, using a representative suite of development tools and languages, are an integral part of this course.

COSC 419 Software Development with Ada **3c-0l-3cr**
Prerequisite: COSC 310
An introduction to the Ada programming language as a tool of the software engineer. Projects use the advanced programming constructs resident in Ada, including packages, multi-tasking, generic units, exception handlers, and concurrent programming.

COSC 420 Modern Programming Languages **3c-0l-3cr**
Prerequisites: COSC 220 and 310
A comparative study of the properties and applications of a range of modern higher-level programming languages, including Ada, APL, C, LISP, LOGO, Pascal, PROLOG, and SNOBOL. Comparison with older languages such as ALGOL, BASIC, COBOL, FORTRAN, and PL/I.

COSC 424 Compiler Construction **3c-0l-3cr**
Prerequisites: COSC 300 and 310
Relates the formal concepts of automata and language theory to the practicality of constructing a high-level language translator. The structures

and techniques used in lexical analysis, parsing, syntax directed translation, intermediate and object code generation, and optimization are emphasized

COSC 427 Cryptography **3c-0l-3cr**
Prerequisites: COSC 310, MATH 122 or 123
Fundamental concepts of encoding and/or encrypting information, cryptographic protocols and techniques, various cryptographic algorithms, and security of information are covered in depth.

COSC 430 Introduction to Systems Programming **3c-0l-3cr**
Prerequisites: COSC 300 and 310
Concepts and techniques of systems programming with an emphasis on assembly, linking, loading, and macro processing for user programs. Overview of higher-level language translation and system control. Programming and research projects.

COSC 432 Introduction to Operating Systems **3c-0l-3cr**
Prerequisites: COSC 300, COSC 310 or equivalents
An introduction to the principles of operating system design and implementation. Topics include interrupt service, process states and transitions, spooling, management of memory and disk space, virtual storage, scheduling processes and devices, and file systems.

COSC 450 Applied Numerical Methods **3c-0l-3cr**
Prerequisites: COSC 250, MATH 171, and 241, or equivalents
Polynomial approximations using finite differences, with applications in numerical integration and differentiation. Numerical solution of initial value ordinary differential equations. The APL language is introduced and used, along with FORTRAN, in programming selected algorithms.

COSC 451 Numerical Methods for Supercomputers **3c-0l-3cr**
Prerequisites: MATH 121 and 122, or MATH 123 or 127, MATH 171, COSC 250
Supercomputers make use of special computer architectures–vector and parallel processors in order to achieve the fastest processing speed currently available. Students are introduced to these features and learn how numerical algorithms can be constructed to exploit supercomputers' capabilities. Students gain practical experience in programming for the Cray, YMP, in incorporating existing scientific software packages into user-written programs, in submitting remote jobs to the Pittsburgh Supercomputer Center, and in producing animated graphical output to summarize the typically large volume of output data generated by large scientific programs. (Also offered as MATH 451; may not be taken for duplicate credit)

COSC 460 Theory of Computation **3c-0l-3cr**
Prerequisite: COSC 310 or instructor permission
Formal methods for describing and analyzing programming languages and algorithms. Backus-Naur forms; productions; regular expressions; introduction to automata theory; Turing machines; recent concepts in algorithm theory computability.

COSC 480 Seminar on Technical Topics **0c-1l-1cr**
Prerequisites: See text below
Reading, review, and discussion of the current literature of computer science and industry professional and technical journals; oral presentations. Should be taken the last semester of the senior year. Should not be taken at the same time as COSC 380.

COSC 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
A seminar in advanced topics of computer science; content varies depending on interests of instructor and students. May be repeated for additional credit. Special Topics numbered 481 are primarily for upper-level undergraduate students.

COSC 482 Independent Study **var-1-4cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval based on academic appropriateness and availability of resources.

COSC 485 Independent Study **var-12cr**
Prerequisites: Permission of a computer science faculty member who agrees to supervise the student's project. Arrangements for selection of a specific topic must be made.

COSC 493 Internship in Computer Science **var-12cr**
Prerequisites: COSC 300, 310, 315, 319, 380, other courses depending on type of internship position desired, completion of application, and selection by committee
Positions with participating companies provide students with paid experience in computer science under the supervision of the companies and faculty. Requirements include three on-site consultations, two university consultations, completion of progress reports, oral presentation, and a final cumulative paper. Offered only to students during the second semester and summer of the junior year or the summer and the first semester of the senior year. No more than 4cr of COSC 493 may be applied toward the credit requirements for the major in COSC.

COUN: Counselor Education
Department of Counseling
College of Education and Educational Technology

COUN 250 Developing Interpersonal Relationship Skills **1c-0l-1cr**
Teaches interpersonal relationship skills: listening, communicating, group dynamics, decision making, leadership, assertiveness, time-use management, problem solving, and conflict resolution. Restricted to residence hall counselors.

COUN 253 Counseling in School Settings **3c-0l-3cr**
An elective course providing in-service teachers and school personnel, other than counselors, with a basic understanding of the knowledge, information, and skills appropriate to counseling with individuals and groups. Restricted to peer tutors.

COUN 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

COUN 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

COUN 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

CRIM: Criminology
Department of Criminology
College of Health and Human Services

CRIM 101 Crime and Justice Systems **3c-0l-3cr**
Introduces the field of criminology through the examination of historical data, statistical information, theories of criminal causation, social control of behavior, development of laws, evaluation of criminal justice system policies, procedures, and trends. Students learn the terminology of the field, gain an awareness of the methods of inquiry utilized in the field, and have the opportunity to examine personal attitudes and values regarding crime and responses to crime

CRIM 102 Survey of Criminology **3c-0l-3cr**
Provides an understanding of the discipline of criminology through an examination of its theories, basic assumptions, and definitions.

CRIM 205 Law Enforcement and the Community **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Introduces the history, function, and role of law enforcement in American society. The multidimensional work of policing is emphasized with particular attention to strategies employed to combat and prevent crime through computer technology and advancements in nonlethal and lethal methods. Organizational and personal factors of policing, such as work-related stress and personnel selections, also are covered, as these are intimately connected to the structure and composition of the communities serviced. Practical and critical approaches to law enforcement are undertaken to explore prevailing and dissenting perspectives on the issues covered.

CRIM 210 Criminal Law **3c-0l-3cr**
A study of the history and sources of criminal law coupled with an analysis of the substantive elements of specific crimes.

CRIM 215 Survey of Courts and the Criminal Justice System **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Examines the historical background, the traditions, and the legal principles that underlie the courts as an integral component of the American system of criminal justice. Both differences and similarities inherent within the state and federal court processes will be analyzed, and the procedures through which the criminal courts uphold the basic rights and liberties of all United States citizens, both victims and the accused, are explored. The dynamics of the judiciary are considered through examination of the critical foundations of the judicial process. A primary focus is placed upon understanding the respective roles played by judges, prosecuting attorneys, defense counsel, police, and probation officers and other court-related personnel in the criminal court process.

CRIM 225 Survey of Corrections **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Introduces correctional policy and practices in the United States and emphasizes the role of corrections in the social control of human behavior. Includes the history of corrections, classic and contemporary thought about the role of corrections in the criminal justice system, and a survey of correctional methods and alternatives with an emphasis on the use of incarceration.

CRIM 235 Survey of Juvenile Justice and Juvenile Law **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Provides an understanding of the juvenile justice system and the various cases and legislative initiatives that have affected juvenile justice policy. In addition to examining the evolution of the juvenile justice system and the transformation of the juvenile court, students gain an understanding of the current issues in juvenile justice in the United States. Attention is also focused on juvenile justice policies and procedures in other countries.

CRIM 255 Law, Social Control, and Society **3c-0l-3cr**
The evolution and development of the modern legal system. Topics include civil, criminal, and administration law, the legal profession, legal systems in American society, and the law as one of many instruments of social control and social change. (Offered as CRIM 357 prior to 2003-04)

CRIM 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

CRIM 300 Theory of Complex Criminal Justice Organizations **3c-0l-3cr**
Prerequisite: CRIM 102 or instructor permission
The study of the evolution and theories of organizational alternatives and their application to the administration of justice.

CRIM 306 Criminological Research Methods **3c-0l-3cr**
Prerequisite: CRIM 102 or instructor permission
An introduction to the basic criminological research methods designed to prepare the student to understand and participate in quantitative and qualitative research.

CRIM 321 Cybersecurity and Loss Prevention **3c-0l-3cr**
Prerequisite: CRIM 101 or 102
Addresses the cybersecurity threat from a more comprehensive standpoint. Students be challenged to recognize and understand security concerns from multiple perspectives, ranging from the insider threat to threats involving the actual physical components. Exposure to a design methodology, associated system components modules, and basic security principles is featured. Students also be exposed to the private and public responses to computer security problems, including the insider threat, domestic and foreign terrorism, and a number of unique computer crimes and solutions to deal with these crimes. The importance of a sound security policy in the overall management of any organization is addressed.

CRIM 323 Cybersecurity and the Law **3c-0l-3cr**
Prerequisite: CRIM 101 or 102
Examines the scope of cybercrime and its impact upon today's system of criminal justice. Includes cybercrime and the Bill of Rights, computer-based economic crime, electronic commerce, ethical challenges, and the Computer Fraud and Abuse Act. Includes an analysis of the legal considerations facing law enforcement and cybersecurity professionals who deal with the problem of discovering, investigating, and prosecuting cybercrime.

CRIM 354 White Collar Crime **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Introduces students to various topics and issues relating to white-collar crime. Theories and measurements of white-collar, corporate, organizational, occupational, workplace, and organized crimes are presented and compared. Prevention, legal issues, and control strategies are presented.

CRIM 374 Environmental Crime and Justice **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Introduces the developing area of criminological solutions to environmental problems. Issues addressed include the nature of environmental offenders and victims, the variety of approaches to achieving environmental justice, and criminal justice solutions to specific environmental problems.

CRIM 384 Violence and Victimology **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Introduces the leading theories and research in the area of violent criminal behavior and victimization. A special emphasis is on patterns of violent offending and victimization over time, victim-offender relationships, and the experience of victims in the criminal justice system. Addresses major violent crimes including murder, rape, robbery, and assault.

CRIM 391 Substance Use and Abuse in Criminal Justice **3c-0l-3cr**
A study of substance use and abuse confronting American society. Alcohol and drug use and abuse education, philosophy, physiological effects, and social aspects are examined in terms of control measures and public safety.

CRIM 394 Crime and Delinquency Prevention **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Examines various crime and delinquency prevention policies and programs. Topics include the historical development of crime and delinquency prevention methods, theoretical applications to prevention efforts, and research findings on program effectiveness. The importance of research design in evaluating prevention programs also will be considered.

CRIM 400 Theoretical Criminology **3c-0l-3cr**
A review and critical analysis of the major criminological theories beginning with the Classical School; psychological, sociological, economic, biological, and political theories of crime and its causes are included

CRIM 401 Contemporary Issues in Criminology **3c-0l-3cr**
An examination of the nature and extent of crime in modern Western society. Emphasizes issues selected from, but not limited to, emerging

patterns of violence, organized crime, white-collar crime, victimless crime, corruption, and those crime control strategies deemed appropriate in a democracy

CRIM 403 Dilemmas in Criminology and Criminal Justice **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Overview of prominent ethical issues facing professionals in criminology and criminal justice, with an emphasis on encouraging individual students to explore their own ethical and moral systems and how they make ethical/moral decisions. Primarily discussion/seminar oriented.

CRIM 410 Race, Ethnicity, Social Structure, and Crime **3c-0l-3cr**
Prerequisites: CRIM 101 and 102
Introduces the art of thinking critically about the social construction of race, ethnicity, and social class in crime and crime control, with special focus on the United States.

CRIM 450 Women and Crime **3c-0l-3cr**
A study of the nature and extent of women's crime, theories of female criminality, processing of women offenders through the criminal justice system, the response of police and court officials to women as victims of crime, and opportunities for women as employees in criminal justice agencies. (Offered as CRIM 390 prior to 2003-04)

CRIM 470 Comparative Study of Justice **3c-0l-3cr**
Comparison of American systems of administration of justice with those of other nations.

CRIM 480 Seminar in Criminology–The Administration of Justice **3c-0l-3cr**
A study of selected topics in criminology–the administration of justice. May be taken more than once for a maximum of 6cr. Not for credit after prior CRIM 480.

CRIM 481 Special Topics in Criminology **var-1-3cr**
Prerequisite: Department consent
A seminar providing study of selected topics not emphasized in other courses. May be taken more than once to a maximum 6cr.

CRIM 482 Independent Study in Criminology **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

CRIM 493 Internship **var-3-12cr**
A structured field placement designed to broaden the educational experience through observation and participation in work assignments in government or private sectors. 6cr can be applied to the major requirements.

CRLG: Critical Languages
College of Humanities and Social Sciences

Critical Languages are offered in four levels. See program description in the opening section of the College of Humanities and Social Sciences. Specific languages are offered as available.

CRLG 101–120 Critical Languages I **3c-0l-3cr**
Basic vocabulary and pronunciation in the target language. Oral/aural skills are stressed.
CRLG 101 Arabic I
CRLG 102 Chinese I
CRLG 103 Dutch I
CRLG 104 Finnish I
CRLG 105 Hindi I
CRLG 106 Hungarian I
CRLG 108 Japanese I
CRLG 109 Korean I
CRLG 110 Modern Greek I
CRLG 111 Portuguese I
CRLG 112 Russian I
CRLG 113 Swedish I
CRLG 114 Hebrew I
CRLG 115 Swahili I

CRLG 151–170 Critical Languages II **3c-0l-3cr**
Prerequisite: Level I or acceptable equivalent
A continuation of the first-semester course. Depending on the language being studied, reading and writing may be introduced at this level.
CRLG 151 Arabic II
CRLG 152 Chinese II
CRLG 153 Dutch II
CRLG 154 Finnish II
CRLG 155 Hindi II
CRLG 156 Hungarian II
CRLG 158 Japanese II
CRLG 159 Korean II
CRLG 160 Modern Greek II
CRLG 161 Portuguese II
CRLG 162 Russian II
CRLG 163 Swedish II
CRLG 164 Hebrew II
CRLG 165 Swahili II

CRLG 201–220 Critical Languages III **3c-0l-3cr**
Prerequisite: Level II or acceptable equivalent
At this first intermediate level, students begin to develop a degree of oral proficiency that varies with the language studied. Reading and writing are studied in all languages by this level.
CRLG 201 Arabic III
CRLG 202 Chinese III
CRLG 203 Dutch III
CRLG 204 Finnish III
CRLG 205 Hindi III
CRLG 206 Hungarian III
CRLG 208 Japanese III
CRLG 209 Korean III
CRLG 210 Modern Greek III
CRLG 211 Portuguese III
CRLG 212 Russian III
CRLG 213 Swedish III
CRLG 214 Hebrew III
CRLG 215 Swahili III

CRLG 251–270 Critical Languages IV **3c-0l-3cr**
Prerequisite: Level III or acceptable equivalent
By the end of this course the student should be able to communicate in simple terms with an educated native speaker on a topic with which the student is familiar. Ability in reading and writing varies with language.
CRLG 251 Arabic IV
CRLG 252 Chinese IV
CRLG 253 Dutch IV
CRLG 254 Finnish IV
CRLG 255 Hindi IV
CRLG 256 Hungarian IV
CRLG 258 Japanese IV
CRLG 259 Korean IV
CRLG 260 Modern Greek IV
CRLG 261 Portuguese IV
CRLG 262 Russian IV
CRLG 263 Swedish IV
CRLG 264 Hebrew IV
CRLG 265 Swahili IV

DANC: Dance
Department of Theater and Dance
College of Fine Arts

DANC 102 Introduction to Dance **3c-01-3cr**
Examines dance as a performing art in both the historical and cultural contexts. Also includes the analysis of a major piece of choreography, attending live performances, and viewing select works of dance. No previous dance experience is required. (Offered as THTR 102 prior to 2001-02)

DANC 150 Fundamentals of Dance **3c-01-3cr**
A basic dance technique that sequentially develops the elements of movement (space, time, force) into a variety of dance genres and period styles. Covers special care and safety of the instrument–the body. (Offered as THTR 150 prior to 2001-02)

DANC 250 Contemporary Dance **3c-01-3cr**
Contemporary dance techniques, improvisation, and choreography. Examines the historical development and cultural influences on the changing philosophies of contemporary dance performance today. Performance of creative work required. (Offered as THTR 250 prior to 2001-02)

DANC 260 Jazz Dance **3c-01-3cr**
Jazz techniques, dynamics, and style for theater dance from the 1920s through the present. Emphasizes analysis of music for choreography. (Offered as THTR 260 prior to 2001-02)

DANC 270 Ballroom and Tap Dance **3c-01-3cr**
A sequential development of tap and ballroom dance techniques in the context of historical development and period styles. Performance for an audience is required.

DANC 280 Ballet **3c-01-3cr**
Sequential development of barre and center techniques that progress to linking moves, turning, and jumps, to dance sequences and choreography. The historical periods of development and the status of the art today are examined in a cultural context which includes gender and minority influences.

DANC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

DANC 290 Ethnic Dance **3c-01-3cr**
Includes dance techniques from a variety of indigenous forms from Western and Eastern cultures. Presented in the historical and social context. An emphasis is given to the needs of theater production.

DANC 351 Choreography **3c-01-3cr**
Prerequisite: One of the following introductory or advanced-level dance classes: DANC 150, 250, 260, 270, 280, 485; or instructor permission
Introduces the necessary choreographic tools needed to manipulate dance as a medium to create dance works. The class learns and uses various approaches to the choreographic process to create dance works, one of which is presented in a public showing at the end of the semester.

DANC 353 Dance Curriculum and Instruction **3c-01-3cr**
Prerequisite: One of the following theater courses:
DANC 250, 260, 270, 280, 290, or 485; or instructor permission
Introduces the necessary teaching skills and curriculum development needed to understand the pedagogical structure for teaching dance. The class learns the approaches to teaching that are unique to dance and learns how to design dance curriculum.

DANC 481 Special Topics **var-1-6cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic maybe offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

DANC 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Independent study in dance may be either purely academic or may be a practical production project, supported by a written document giving evidence of significant scholarly investigation or original, creative effort. May be repeated to a maximum of 6cr. Approval is based on academic appropriateness and availability of resources.

DANC 485 Dance Studio **3c-01-3cr**
Prerequisite: DANC 250, 260, 270, or 280 (beginning technique class taken must be the specific dance genre of the Dance Studio class offered); or by instructor permission
Furthers the development of the dancer at the intermediate level of a specified genre of dance. Development in dance requires the integration of both technique and artistic development. The specific genres vary from semester to semester, including modern, ballet, tap, and jazz as alternating semester options. May be repeated with a different focus each time.

DEDU: Distributive Education
Department of Technology Support and Training
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

DEDU 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

DEDU 331 Modern Merchandising **3c-01-3cr**
Techniques for planning and controlling inventory, analyzing sales, working with modern systems for handling cash, and using color, line, and design. Practice in preparing merchandise display units.

DEDU 413 Methods and Evaluation in Marketing Education **3c-01-3cr**
Prerequisites: BTED 111, DEDU 333, EDSP 102, and MKTG 320
Includes two sections of special methods and evaluation in this field. Objectives are to acquaint students with the basic principles of group and individual instruction in various subject matter areas, as well as methods of presentation. Unit plans, lesson plans, demonstrations, and evaluations are prepared. Students select sections needed for certification.

DEDU 481 Special Topics **3c-01-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

DEDU 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ECED: Early Childhood Education/PreK-Grade 6
Professional Studies in Education
College of Education and Educational Technology

Note: Courses in Early Childhood Education/PreK-Grade 6 are restricted to majors with a 2.5 cumulative GPA, except with departmental permission.

ECED 180 Orientation to the ECED/ELED Program **1c-01-1cr**
Prerequisite: Declared Early Childhood Education/PreK-Grade 6 or Elementary Education major
Familiarizes students with the professional development school communities in which they will become involved and to provide an overview of the Early Childhood Education/PreK-Grade 6/Elementary Education teacher certification program of study. Taught Spring semester only.

ECED 200 Introduction to Early Childhood Education **3c-01-3cr**
Prerequisite: Admission to the Early Childhood Education/PreK-Grade 6 Program
Introduces prospective teachers to the historical, sociological, and political aspects of early childhood education. Emphasizes appreciating diversity in the early childhood classroom and on developing keen observation strategies to both heighten understanding of children and evaluate programs that serve them. Five hours of service learning are required.

ECED 220 Children's Literature to Enhance Emergent and Beginning Reading **3c-01-3cr**
Prerequisite: Admission to the Early Childhood Education/PreK-Grade 6 Program
Focuses on the study of young children's acquisition of speaking, listening, reading, and writing skills and the importance of a developmentally appropriate and effective language arts curriculum for young children. Emphasizes strategies for developing children's literacy skills and integrating children's literature throughout the early childhood curriculum. Observations, interviews, and teaching experiences are an integral part of the course. Seven hours of service learning are required. Offered as a writing-intensive course.

ECED 280 Maximizing Learning **3c-01-3cr**
Prerequisite: Admission to Early Childhood Education/PreK-Grade 6 Program
Furthers an understanding of the organization and management of functional learning environments and the use of curriculum development principles and strategies to design, implement, and evaluate educationally sound and developmentally effective learning experiences for young children.

ECED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ECED 310 Science and Health in the Literacy-based Early Childhood Curriculum **3c-01-3cr**
Prerequisite: Admission to the Early Childhood Education/PreK-Grade 6 Program
Emphasizes the need for high-quality, meaningful science and health experiences in early childhood, across a developmental curriculum. Teaches how to provide young children with unique opportunities to explore phenomena, use skills of scientific inquiry, cultivate scientific dispositions, and build a foundation for understanding core scientific and health concepts.

ECED 314 Creative Experiences to Enhance Literacy Acquisition **3c-01-3cr**
Prerequisite: Admission to the Early Childhood Education/PreK-Grade 6 Program
Provides the knowledge and skills necessary to incorporate creative music, art, movement, and play activities into the comprehensive early childhood curriculum. Integration of creative experiences designed to enhance literacy acquisition will be emphasized, as well the historical, theoretical, and research base for the integration of creative experiences into the curriculum. Students engage in supervised field experiences during which they will engage preschool students in literacy-focused creative experiences. Eight hours of service learning focusing on early literacy acquisition are required.

ECED 451 Teaching Primary Reading **3c-01-3cr**
A methods course to assist in developing the reading abilities of young children. Deals with instructional issues related to teaching reading and introduces students to varying reading and pre-reading processes which are effective with young children. Also emphasizes diagnostic and assessment strategies for teaching reading.

ECED 480 Professional Seminar: Teacher as Researcher and Advocate **1c-01-1cr**
Prerequisites: Admission to student teaching; enrollment limited to Early Childhood Education/PreK-Grade 6 Program majors. Must be taken in conjunction with EDUC 441.
Provides ongoing support related to candidates' work in early childhood classrooms. Conducts a rudimentary action research project focused on literacy acquisition, engages in informed advocacy efforts for young children and the profession, and examines the theoretical and research base for multicultural and anti-bias educational practices.

ECED 481 Special Topics **var-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
A course/seminar on topics in education appropriate for the Early Childhood Education setting.

ECED 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ECON: Economics
Department of Economics
College of Humanities and Social Sciences

ECON 101 Basic Economics **3c-01-3cr**
Scarcity, role of prices in determining production and the allocation of resources, business cycle analysis, policy options for reducing unemployment and inflation, economic role of government, international trade, and selected current economic problems are studied. For those who do not plan to take more than 3cr of economics. Note: May not be taken after successful completion of or concurrent registration in any other ECON course.

ECON 121 Principles of Macroeconomics **3c-01-3cr**
Nature and methodology of economics, mixed capitalism and market economy; national income; employment theory, including economics of fiscal policy; money, banking, and Federal Reserve System; international trade and finance.

ECON 122 Principles of Microeconomics **3c-01-3cr**
Economics of the firm; theory of consumer demand, determination of price and output in different market structures; distribution of income; economic growth.

ECON 223 Economics of Crime **3c-01-3cr**
Economic analysis of criminal activity and its impact on the allocation of scarce resources. Uses fundamental economic models to explain crimes against people, property crime, "victimless crime," and organized crime.

ECON 239 Economics of Sports **3c-01-3cr**
Gains a better understanding of the sports industry. Explores how economics applies to both amateur and professional sports. Learns about a variety of areas, including the labor issues in sports (e.g., free agency, reserve

clause, unions, strikes, and discrimination), the legal relationship between sports and the government (e.g., Title IX and antitrust law), and public finance issues (e.g., location of sports franchises and public ownership of stadiums and arenas). Guest speakers and a multimedia approach are used.

ECON 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ECON 325 Monetary Economics I **3c-0l-3cr**
Prerequisites: ECON 121, 122
Organization, operation, and economic significance of U.S. monetary institutions; commercial banks and Federal Reserve System; survey of monetary theory and policy; mechanism of international payments.

ECON 326 Monetary Economics II **3c-0l-3cr**
Prerequisite: ECON 325 or instructor permission
Detailed study of monetary theory; tasks of central banking; principal objectives of monetary policy; intensive study of recent monetary experience; complementary and competing aims of monetary and fiscal policy.

ECON 330 Labor Economics **3c-0l-3cr**
Prerequisites: ECON 121, 122
History, structure, and operation of trade unions and employer organizations; major federal labor legislation; collective bargaining theory; wage determination; current labor problems.

ECON 331 Industrial Organization **3c-0l-3cr**
Prerequisite: ECON 122 or instructor permission
Social effectiveness of industries analyzed through measures of market structure, market conduct, and market performance.

ECON 332 Government and Business **3c-0l-3cr**
Prerequisite: ECON 122 or instructor permission
An analysis of the antitrust laws focusing on the maintenance of competition, the prohibition of unfair business conduct, and the achievement of desirable economic performance.

ECON 333 Regulation of Industry **3c-0l-3cr**
Prerequisites: ECON 121, 122 or instructor permission
Examines the theory and practice of regulation, emphasizing effects of regulation on economic performance and efficiency in the U.S

ECON 334 Managerial Economics **3c-0l-3cr**
Prerequisites: ECON 121, ECON 122, MATH 121 or equivalent
Applications of economic theory using algebra, elementary statistics, and calculus to solve managerial optimization problems including problems of forecasting and risk.

ECON 335 Public Finance **3c-0l-3cr**
Prerequisites: ECON 121, 122 or instructor permission
Taxation and expenditure theory at the federal level; federal budget and debt considerations; public sector impact upon economy.

ECON 336 State and Local Finance **3c-0l-3cr**
Prerequisite: ECON 122 or instructor permission
An analysis of character and impact of state and local government revenue sources, expenditures, and fiscal systems; intergovernmental fiscal relations.

ECON 339 Economic Development I **3c-0l-3cr**
Prerequisites: ECON 121, 122
Theory of growth; theory of economic development of underdeveloped countries.

ECON 343 Economic History of the United States **3c-0l-3cr**
Prerequisite: ECON 101 or 121 or 122
Applications of economic theory and models of economic development to the main patterns of U.S. postrevolutionary growth; emphasizes the history of economic development as a laboratory for testing economic hypotheses.

ECON 345 International Trade **3c-0l-3cr**
Prerequisites: ECON 121 and 122 or instructor permission
A study of the microeconomic segment of international specialization and exchange, including theories of international trade and their application to commercial policies, historical survey and examination of current problems of international trade, and the institutional setting of international trade.

ECON 346 International Finance **3c-0l-3cr**
Prerequisites: ECON 121 and 122 or instructor permission
A study of the macroeconomic segment of international specialization and exchange, including analysis of balance of payments, exchange rates, and the mechanism of international economic and monetary adjustments; international macroeconomic policy; historical survey and examination of current international financial problems; and the institutional setting of international payments.

ECON 350 Comparative Economic Systems **3c-0l-3cr**
Prerequisite: ECON 101 or 121 or 122
An evaluation of premises, practices, institutions, and performance of capitalist, socialist, and mixed economies using economic theory and measurement.

ECON 351 Russian Economic Development **3c-0l-3cr**
Prerequisite: ECON 101 or 121 or 122
A study of the theory, institutions, and performance of the Russian economy including comparison of present and past patterns of economic development.

ECON 355 Statistics for Economists **3c-0l-3cr**
Prerequisite: ECON 121 or 122 or instructor permission
An introduction to economic statistics, including frequency distributions, probability, distributions of random variables, functions of random variables, and tests of economic hypotheses.

ECON 356 Introduction to Econometrics **3c-0l-3cr**
Prerequisites: ECON 355 or its equivalent or instructor permission
An introduction to econometrics, including linear normal regression models of two or more random variables, special econometric problems, and solutions of simultaneous equations.

ECON 360 Economics of Health Services **3c-0l-3cr**
Prerequisite: ECON 101 or 122 or instructor permission
An analysis of the allocation of resources in the health sector using demand and supply techniques. Pricing and output decisions by physicians, hospitals, and other health agencies are considered along with other current policy issues.

ECON 361 Environmental Economics **3c-0l-3cr**
Prerequisite: ECON 101 or 122
An examination of economic costs and benefits of environmental control and modification. Techniques of economic analysis are used to understand economic aspects of environmental problems and contribute toward their solution. (Offered as ECON 283 prior to 2003-04)

ECON 369 Contemporary Economic Issues **3c-0l-3cr**
Prerequisite: ECON 101 or 122
A rigorous but nontechnical analysis of a variety of economic problems and a formulation and evaluation of possible corrective policies. (Offered as ECON 241 prior to 2003-04)

ECON 371 Economics of Labor Legislation **3c-0l-3cr**
Prerequisite: ECON 330 or instructor permission
Economic background and effects of governmental regulation of labor relations, emphasizing a detailed examination of National Labor Relations Act as amended.

ECON 372 Economics of Wages and Employment **3c-0l-3cr**
Prerequisite: ECON 330 or instructor permission

An analysis of wages and employment under various market structures. Also, analysis of the impact of labor market forces on wages, prices, and distributive shares.

ECON 373 Economics of Human Resources **3c-0l-3cr**
Prerequisite: ECON 101 or 122
An inquiry into economic demographics and related factors affecting growth, structure, and distribution of an economy's labor force into different occupations.

ECON 383 Urban/Regional Economics **3c-0l-3cr**
Prerequisites: ECON 121 and 122
Location theory, land use patterns, urban economic/regional growth change, and urban economic problems and policies.

ECON 421 Macroeconomic Analysis **3c-0l-3cr**
Prerequisites: ECON 121, 122 or instructor permission
Emphasizes aggregate income levels and problems of unemployment, inflation, and growth. Covers consumption and investment theories and the role of fiscal and monetary policy.

ECON 422 Microeconomic Analysis **3c-0l-3cr**
Prerequisites: ECON 121, 122, MATH 121 or equivalent
Consumer behavior, theory of the firm, theory of exchange, market structures, distribution, general equilibrium theory, welfare economics.

ECON 480 Seminar **3c-0l-3cr**
Prerequisite: Instructor permission
A seminar in selected economic issues or problems.

ECON 481 Special Topics **var-1-3cr**
Prerequisite: Instructor permission
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

ECON 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ECON 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6cr.

ECON 493 Internship in Economics **var-2-12cr**
Prerequisites: Economics major who has completed at least 12cr in ECON and who has at least a 2.5 GPA in the major and in all coursework
Provides on-the-job experience in economics positions with private and governmental employers. The student is also required to complete related academic work in the form of papers and selected readings. Number of credits earned depends upon the nature of the job and amount of time involved in internship. A maximum of 6cr earned in this course may be counted toward the 30cr in economics requirement for ECON majors.

EDEX: Education of Exceptional Persons
Department of Special Education and Clinical Services
College of Education and Educational Technology

EDEX 103 Special Education Technology **3c-0l-3cr**
Addresses the use of assistive technology in the classroom in areas of communication, mobility, education, recreation, vocation, independence, and therapy/rehabilitation. Emphasis is on developing awareness of the diversity of assistive technology currently available for individuals with disabilities. Specific applications of assistive technology devices, which improve and maintain the functioning capabilities of individuals with disabilities, are presented. Participants engage in independent learning activities and receive information that enables them to gather information about assistive technology devices, companies, and related services.

EDEX 111 Introduction to Exceptional Persons **3c-0l-3cr**
Prerequisite: Department majors and official incoming transfers only
Surveys characteristics, needs, problems, and behavior patterns of any person who deviates sufficiently from "normal" to be considered exceptional. Consideration to those who fall intellectually both above and below average and to those who are handicapped visually, acoustically, behaviorally, orthopedically, neurologically, or in respect to speech patterns.

EDEX 112 Typical and Atypical Growth and Development **3c-0l-3cr**
Prerequisites: EDEX 111, PSYC 101
Presents foundations of human growth from conception, including basic embryogenesis, up to but not including adolescence. Considers the biological, cultural, educational, and parenting influences that shape the child, as well as selective examples of normal and deviant physical and intellectual development.

EDEX 221 Methods of Teaching Mathematics to Persons with Disabilities **3c-0l-3cr**
Prerequisites: MATH 151, EDEX 111
Emphasizes recent developments in elementary curriculum and instructional techniques for developing concepts; implications of recent resource developments and materials helpful to the prospective special education teacher. Also emphasizes methods of helping children learn mathematical concepts through physical activity and on ways to adapt regular classroom materials to meet needs and abilities of slow and disabled learners.

EDEX 222 Methods of Teaching Reading to Persons with Disabilities **3c-0l-3cr**
Prerequisite: Sophomore status or above
Presents basic concepts of developmental reading instruction and systematic coverage of the methods of teaching reading from readiness stages through eighth grade. Diagnostic-prescriptive techniques are included.

EDEX 231 Methods of Teaching Content Area Subjects to Persons with Disabilities **3c-0l-3cr**
Prerequisites: EDEX 111, 3.0 GPA
Presents methods for teaching science and social studies to the mentally and/or physically handicapped. Scope and sequence of content, as well as evaluative techniques for each content area, are studied. Integration of other content areas and skill areas is stressed. Also stresses teaching in both resource room and less restrictive environments.

EDEX 300 Education of Students with Disabilities in Inclusive Elementary Classrooms **2c-0l-2cr**
Prerequisites: Early Childhood Education/PreK-Grade 6 and Elementary Education majors only; to be taken only during the semester of the designated methods courses
Examines the issues associated with education of students with diverse learning needs, particularly those with disabilities or who are at risk for school failure. Emphasizes special education, particularly the legal rights of students with exceptionalities and their parents, and the responsibilities of educators in addressing those rights. Examines the differential impact of student characteristics on elementary-level school performance and instructional methods proven to be effective in educating students with disabilities and learning style differences.

EDEX 301 Education of Students with Disabilities in Inclusive Secondary Settings **2c-0l-2cr**
Prerequisite: Secondary Education majors and others who will be certified to teach content from K-12
Recommendation: It is strongly recommended that students take this course in the same semester as the designated methods course.

Examines the issues associated with education of students with diverse learning needs, particularly those with disabilities or who are at risk for school failure. Emphasizes special education, particularly the legal rights of students with exceptionalities and their parents, and the responsibilities of educators in addressing those rights. Examines the differential impact of student characteristics on secondary-level school performance and instructional methods proven to be effective in educating students with disabilities and learning style differences.

EDEX 321 Methods of Teaching Language Arts to Persons with Disabilities **3c-0l-3cr**
Prerequisites: EDEX 111, 222, and SPLP 254, 3.0 GPA
A review of typical and atypical characteristics of the handicapped in relationship to the language arts. Deals with preparation and execution of units of instruction in language arts for mentally and/or physically handicapped persons. Diagnostic and prescriptive approaches are included; integration of language arts with a highlight on reading is stressed.

EDEX 340 Introduction to Behavior Management in Special Education **3c-0l-3cr**
Prerequisites: EDEX 111, 112, EDSP 102, 3.0 GPA
An overview of systematic behavioral change techniques for use with students in a variety of special education settings including integrated, resource, self-contained, special school, and residential. Emphasizes a case analysis approach to creating and evaluating behavioral changes for students with mild to severe disabilities.

EDEX 415 Preschool Education for Children with Disabilities **3c-0l-3cr**
Prerequisites: Departmental permission, 3.0 GPA
Provides information on assessment, intervention strategies, curriculum, and prescriptive planning for preschool children with disabilities. For departmental majors who are specifically interested in early childhood education, as an elective for other interested students in related fields, and as a priority course for Early Childhood Education/PreK-Grade 6 majors.

EDEX 416 Education of Persons with Emotional or Behavioral Disorders **3c-0l-3cr**
Prerequisites: Successful completion of Step 1 of the 3-Step Process
Focuses on major theoretical positions regarding etiology of emotional and behavioral disorders, definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services.

EDEX 417 Education of Persons with Mental Retardation or Developmental Disabilities **3c-0l-3cr**
Prerequisites: Successful completion of Step 1 of the 3-Step Process
Focuses on major theoretical positions regarding etiology of mental retardation and developmental disabilities, including autism. Definition, identification, and educational approaches are discussed. Reviews research in the field, including current issues, trends, practices, and services.

EDEX 418 Education of Persons with Physical or Multiple Disabilities **3c-0l-3cr**
Prerequisites: Successful completion of Step 1 of the 3-Step Process
Focuses on major theoretical positions regarding etiology of a wide and diverse range of physical/multiple disabilities, the definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services.

EDEX 419 Education of Persons with Brain Injuries or Learning Disabilities **3c-0l-3cr**
Prerequisites: Successful completion of Step 1 of the 3-Step Process
Focuses on major theoretical positions regarding etiology of neurological and learning disabilities, definition and identification of the population, and educational approaches. Reviews research in the field, including current issues, trends, practices, and services.

EDEX 425 Methods and Curriculum (Mild-Moderate Disabilities) **3c-0l-3cr**
Prerequisites: EDEX 221, 222, 231, 321, 340, successful completion of Step 1 of the 3-Step Process
An in-depth examination of assessment methods, strategies, and curricula. Emphasizes assessment methods and strategies used in a variety of service models that serve elementary- and secondary-level students with learning disabilities, behavioral disorders, mild mental retardation, and high-function autism.

EDEX 435 Methods and Curriculum (Severe-Profound Disabilities) **3c-0l-3cr**
Prerequisites: EDEX 221, 222, 231, 321, 340, successful completion of Step 1 of the 3-Step Process
Emphasizes methods designed to facilitate the development of an integrated, functional, and community-based curriculum that prepares students for participation in a wide variety of postschool environments.

EDEX 440 Ethical and Professional Behavior **1c-0l-1cr**
Prerequisites: Departmental permission, successful completion of Step 1 of the 3-Step Process
Emphasizes ethical and professional behavior for student teachers and professional employees. Possibilities for and methods of initiating and profiting from postbaccalaureate study are indicated. Student teachers are required to complete and present a curriculum book regarding each student-teaching experience.

EDEX 460 Family Perspectives on Disability **3c-0l-3cr**
Prerequisite: PSYC 101
Intended for any major who will work with families and youth with disabilities. By understanding families as competent and resourceful systems, students will critically examine ways to collaborate effectively with family members. Focuses on legal and philosophical bases for supporting families in making important decisions affecting the education and care of their children.

EDEX 480 Seminar in Special Education **var-1-3cr**
Prerequisite: Departmental permission
Interested students may use this course for the pursuit of knowledge regarding specific concerns of the exceptional which are not ordinarily considered in such detail during regular classroom instruction. Students wishing to enroll are expected to submit a written proposal regarding their desire for study at the time permission for enrollment is sought. With permission, the course may be repeated for credit.

EDEX 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

EDHL: Education of Deaf and Hard-of-Hearing Persons
Department of Special Education and Clinical Services
College of Education and Educational Technology

EDHL 114 Introduction to Deaf and Hard-of-Hearing Persons **3c-0l-3cr**
Prerequisites: EDHH majors only
Deals with the different approaches used in teaching students who are deaf or hard of hearing–manual language, oral language, and total communication. The historical background of each approach is presented with its strengths and weaknesses. Criteria for the use of each approach established in consideration of degree of loss exhibited by the pupil, the age of onset, and the social and psychological implications.

EDHL 115 Introduction to American Sign Language **1c-1l-1cr**
Development of manual dexterity and fluency using fingerspelling. Acquisition of basic American Sign Language syntax, semantics, vocabulary,

and pragmatics. Practice in acquiring general information from a signed message and conversing informally on commonly used topics.

EDHL 215 Intermediate American Sign Language I **1c-1l-1cr**
Prerequisites: EDHL 115, 3.0 GPA
Emphasizes comprehension of signed information and development of fluency in conveying a message in American Sign Language. Modification of signs and individualization of techniques for instruction/communication with learning-impaired or multihandicapped deaf learners. (Offered as EDHL 244 prior to 2003-04)

EDHL 216 Intermediate American Sign Language II **1c-1l-1cr**
Prerequisites: EDHL 115, 215, 3.0 GPA
Development of expressive and receptive skills in American Sign Language, focusing on idiom-like expressions, number systems, rules, grammar, and conversational language. Total immersion approach is used.

EDHL 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

EDHL 307 Speech for Deaf and Hard-of-Hearing Persons **3c-0l-3cr**
Prerequisites: EDHL 114, 3.0 GPA
Techniques for developing, diagnosing, analyzing, and correcting the speech and voice problems of persons who are deaf or hard of hearing. Includes lecture, demonstration, and special projects.

EDHL 308 Language for Deaf and Hard-of-Hearing Persons **3c-0l-3sh**
Prerequisites: EDHL 114, 3.0 GPA
Development and remediation of language of the hearing impaired. Language sampling and diagnostics, sentence patterning, and analytic versus natural teaching methods. Structuring a communicative environment.

EDHL 315 Manually Coded English **1c-1l-1cr**
Prerequisites: EDHL 114, 115, 215, 3.0 GPA
Provides the basics of using Manually Coded English (MCE) as an instructional tool. Rationale for MCE is emphasized with special consideration of reasons for appropriateness of approach. Sign systems used with deaf and hard-of-hearing persons, as well as other exceptional individuals, are included with emphasis on signing according to acceptable syntactical English structure.

EDHL 316 Interpreting for Teachers **1c-1l-1cr**
Prerequisites: EDHL 115, 215, 315
Provides future teachers of deaf and hard-of-hearing students with basic competency in interpreting from spoken English to sign language and from sign language to spoken English. Includes ethics of interpreting, the role of an interpreter, and basic interpreting principles. Extensive practice is required.

EDHL 329 Teaching–Collaborative Practicum I **var-1cr**
Prerequisites: EDHL 114, 115, 215, 216, 360; 3.0 GPA
Provides actual contact with children who are deaf or hard of hearing. Practica will be set up in appropriate school/clinic/itinerant programs where the academic needs of students who are deaf or hard of hearing are being addressed. Behavioral observation and collaboration skills are developed initially to prepare students to work in instructional pairs. Guidance in the development and execution of lesson plans is provided. Instructional collaboration is emphasized. Written reports of the practica are submitted and discussed.

EDHL 330 Teaching–Collaborative Practicum II **var-1cr**
Prerequisites: EDHL 329, 3.0 GPA
Provides actual contact with children who are deaf or hard of hearing. Practica will be set up in appropriate school/clinic/itinerant programs where the academic needs of students who are deaf or hard of hearing are being addressed. Behavioral observation and collaboration skills are developed initially to prepare students to work in instructional pairs. Guidance in the development and execution of lesson plans is provided. Instructional collaboration is emphasized. Written reports of the practica are submitted and discussed. A continuation of EDHL 329 and includes peer support and supervision of students in EDHL 329.

EDHL 360 General Methodology for Education of Deaf and Hard-of-Hearing Persons I **2c-0l-2cr**
Prerequisites: EDHL 114, 115, 215, 3.0 GPA
Provides a systematic coverage of the basic procedures for maintaining legal educational mandates (IDEA) and teaching curriculum subjects. Includes the development of an Evaluation Report and Individualized Education Plan and adaptive methods of instruction for teaching mathematics and science. The Pennsylvania K-12 Academic Standards are used to guide the construction of lessons that are developmentally appropriate and follow current best practices in education.

EDHL 361 General Methodology for Education of Deaf and Hard-of-Hearing Persons II **2c-0l-2cr**
Prerequisites: EDHL 114, 115, 215, 216, 3.0 GPA
Provides a systematic coverage of the basic procedures for teaching curriculum subjects to deaf or hard-of-hearing students. Includes the technology-enhanced development of lesson plans and unit plans as well as adaptive methods of instruction for teaching language arts (reading-writing-listening-speaking/signing), social studies/deaf studies, and health. The Pennsylvania K-12 Academic Standards are used to guide the construction of lessons that are developmentally appropriate and follow current best practices in the education of deaf or hard-of-hearing students. The second half of a two-part general methods course sequence.

EDHL 415 ASL Pedagogy **1c-1l-1cr**
Prerequisites: EDHL 114, 115, 215, 216, 315, 316, 3.0 GPA
Studies the evolution of signs; dialectical sign systems. Analysis and comparison of the linguistic similarities/differences of various sign languages. Direct translation of written or spoken information on specific topics using American Sign Language or Signed English. Practice using conversation on both a social and academic level. (Offered as EDHL 331 prior to 2003-04)

EDHL 451 Teaching Reading to Deaf and Hard-of-Hearing Persons **3c-0l-3cr**
Prerequisites: EDHL 308, 3.0 GPA
Presents basic concepts of developmental reading instruction and systematic coverage of the methods of teaching reading to students who are deaf or hard of hearing from readiness stages through upper school. (Offered as EDHL 351 prior to 2003-04)

EDHL 465 Parent-Preschool Programs for Deaf and Hard-of-Hearing Persons **3c-0l-3cr**
Prerequisites: EDEX 112, EDHL 114, 307, 308, SPLP 334, 3.0 GPA
Developing home/preschool programs for parents and infants who are deaf or hard of hearing (0-3 years). Teaching speech, language, speechreading, use of residual hearing, and developing readiness skills at the preschool level. (Offered as EDHL 365 prior to 2003-04)

EDHL 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

EDHL 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

EDSP: Educational and School Psychology
Department of Educational and School Psychology
College of Education and Educational Technology

EDSP 102 Educational Psychology **3c-0l-3cr**
Promotes an understanding of the principles of psychology governing human behavior, with particular emphasis on ther relation to learner, learning process, and learning situation in an educational environment.

EDSP 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

EDSP 373 Psychology of Adolescent Education **3c-0l-3cr**
Prerequisite: EDSP 102
A study of significant characteristics, behavior, and educational and social problems of adolescents.

EDSP 376 Behavior Problems **3c-0l-3cr**
Prerequisite: EDSP 102
An examination of emotional and social aspects of behavior problems encountered in classroom situations and potential remedial techniques.

EDSP 378 Learning **3c-0l-3cr**
Prerequisite: EDSP 102
Explores learning theories and educational application in the classroom.

EDSP 477 Assessment of Student Learning: Design and Interpretation of Educational Measures **3c-0l-3cr**
Prerequisites: PSYC 101 or permission
Acquaints students with major methods and techniques of evaluation used to assess and report growth, development, and academic achievement of learners in elementary and secondary schools, including interpretation of standardized test information. (Offered as EDSP 377 prior to 2001-02)

EDSP 481 Special Topics in Educational Psychology **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

EDSP 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

EDSP 499 Independent Study **var-1-3cr**

EDUC: Education
College of Education and Educational Technology

EDUC 242 Pre-Student Teaching Clinical Experience I **var-1cr**
Prerequisite: Admission to teacher certification
Observation/participation in a basic education classroom beginning not later than the sophomore year. Transfer students (and other selected students at the recommendation of the teacher education coordinator of the program) may register later than sophomore year upon admission to teacher certification.

EDUC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

EDUC 342 Pre-student Teaching Clinical Experience II **var-1cr**
Prerequisites: EDUC 242 and admission to junior standing
Students work toward the development of specific competencies that relate to individual major fields of teaching.

EDUC 389 Field Experience Intervention **3c-0l-3cr**
Prerequisites: Permission of department and instructor; Elementary Education or Early Childhood Education/PreK-Grade 6 major
Assists in achieving the competencies within the major necessary for performance in student teaching. Teaching skills are developed through one-on-one tutoring and a field experience. Each student works in collaboration with the instructor to develop a personal learning contract that provides a means for demonstrating those competencies identified by the instructor and student. Students are expected to show commitment to self-development and teaching. Only offered on a pass/fail basis.

EDUC 408 Reading in the Content Areas **3c-0l-3cr**
Prerequisite: ELED 222
Problems related to teaching students reading and study skills specifically needed in each of the subject areas at the elementary level. Content teachers learn how to develop students' competence in these skills as part of their regular classroom instruction.

EDUC 415 Computers in the School Curriculum **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101 or instructor permission
Students use a variety of computer software including word processing, record management programs, and simulation programs. Emphasizes the application of computer programs within the K-12 school curriculum.

EDUC 421 Student Teaching **var-6cr**
Prerequisite: Admission to Student Teaching
An experience in teaching at the elementary level; coordination and visitation by a university faculty member with daily supervision by a cooperating classroom teacher.

EDUC 423 Professional Practicum, Including School Law **var-3cr**
A series of conferences and related activities to prepare students for actual teaching experiences. Parallels student teaching experience in junior and senior years. (Elementary Education majors only)

EDUC 431 Student Teaching in Family and Consumer Sciences **var-6cr**
Prerequisite: Admission to Student Teaching
An experience in teaching family and consumer sciences at the secondary level.

EDUC 441 Student Teaching **var-6-12cr**
Prerequisite: Admission to Student Teaching
An experience in teaching at the elementary or secondary level; coordination and visitation by a university faculty member with daily supervision by a cooperating classroom teacher.

EDUC 442 School Law **1c-0l-1cr**
Required of all teacher certification students. Includes overview of legal principles that apply to special areas of education. Must be taken prior to student teaching.

EDUC 451 Teaching Science in the Secondary School **2c-2l-3cr**
Prerequisite: Admission to Student Teaching
Background to help science majors meet the problems of teaching science. Various inquiry approaches useful in meeting objectives of a contemporary science class are taught and exemplified.

EDUC 452 Teaching of English and Communication in the Secondary School **3c-0l-3cr**
Prerequisites: ENGL 314, 323, and 380 and admission to Student Teaching

A prerequisite to student teaching in English. Introduces current professional practices in the teaching of English and communications in high school.

EDUC 453 Teaching of Foreign Languages in the Secondary School **3c-0l-3cr**
Prerequisites: Grade of C or better in SPAN 390 or FRNC/GRMN 390; instructor permission
Develops an understanding of current theories of foreign language learning through exploration of relevant research. Students read about and discuss the implications of key research for teaching in secondary school classrooms. Opportunities are provided for students to use the theoretical base to design and present classroom lessons and to reflect on the effectiveness of their teaching. Special attention is given to designing performance-based language assessments and to adapting instruction to address the special needs of learners. Taught fall semester only.

EDUC 455 Teaching of Social Studies in Secondary Schools **3c-0l-3cr**
Prerequisite: Admission to Student Teaching
A study of modern methods and techniques for teaching social studies and of current curricula in social studies.

EDUC 456 Teaching Math in the Secondary Schools **3c-0l-3cr**
Prerequisite: Admission to Student Teaching
A study of modern methods and techniques for teaching mathematics and current curricula.

EDUC 462 Issues and Innovations in Education **3c-0l-3cr**
A study of issues and innovations which influenced education is included. Educational innovations and issues which deal with curriculum, school organization, and materials of instruction are examined.

EDUC 481 Special Topics **3c-0l-3cr**
Prerequisite: By permission only
Provides an opportunity to investigate in-depth an area of education under professional supervision.

EDUC 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

EDUC 495 International Study Tour in Education **var-3cr**
A study of various peoples through their cultural settings and educational systems; on-site visitation to selected schools and other social agencies and institutions; seminars with school officials and directed readings.

EDUC 499 Multicultural/Multiethnic Education **2c-0l-2cr**
Prerequisite: One methods course must be taken prior to, or concurrently with, EDUC 499
Provides an understanding and appreciation of cultural diversity in the United States. Students gain the ability to locate and develop curricular materials appropriate to this country's diversity

ELED: Elementary Education
Professional Studies in Education
College of Education and Educational Technology

Note: Courses in Elementary Education are restricted to majors, except with departmental permission.

ELED 110 Pathways to Teaching **1c-0l-1cr**
Prerequisite: Freshmen with declared major of Elementary Education or Early Childhood Education/PreK-Grade 6 or instructor permission
An orientation to the profession of teaching for incoming freshman majors. Enhances awareness of the skills, attitudes, and behaviors majors need for success as university students and as elementary and early childhood educators. In light of the increasing complexity of the teaching profession, familiarizes students with the program options and career-enhancing specializations available to them through the Professional Studies in Education Department. Introduces the Conceptual Framework of the College of Education and Educational Technology and provides knowledge about the foundational elements of Content, Collaboration, the Learner, Commitment, and Competence, which are regarded as crucial aspects of a professional identity for teaching.

ELED 211 Music for the Elementary Grades **2c-0l-2cr**
Geared for elementary education students. Includes basic ideas for understanding, development, and confidence for future classroom teachers and their pupils in areas of music education.

ELED 213 Art for the Elementary Grades **2c-0l-2cr**
The creative use of art materials and an understanding of development of capacities of children through art.

ELED 215 Child Development **3c-0l-3cr**
A survey of human development, from conception to adolescence, in terms of basic scientific data. Development, growth, and behavior are studied and their implications for home, school, and community are considered.

ELED 221 Children's Literature **3c-0l-3cr**
Acquisition of a wide acquaintance with children's literature, old and new. Poetry selections, annotated stories, and bibliographies will be assembled. Ways and means to develop, stimulate, and guide children's reading of literature presented. Principles and techniques of successful storytelling are studied and practiced.

ELED 222 Reading for the Elementary School **3c-0l-3cr**
A systematic coverage of the teaching of reading, including methods, techniques, and materials.

ELED 257 Pedagogy I **3c-0l-3cr**
Competencies specific to the science of teaching are introduced. Students become familiar with the fundamentals of teaching at the elementary level. Areas explored include models of teaching, including lesson and unit planning, and creating a classroom environment that is conducive to learning.

ELED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ELED 312 Teaching of Elementary Science **2c-0l-2cr**
Emphasizes science as it relates to child and curriculum, planning for teaching science, and recent innovations in science teaching. Course offered on the junior block only.

ELED 313 Teaching Mathematics in the Elementary School **3c-0l-3cr**
Prerequisites: MATH 151, 152, ELED 257
Recent developments in curriculum and methods of instruction of contemporary elementary school mathematics programs. Students become acquainted with books, materials, and other resources helpful to prospective teachers. Includes observations of master teachers.

ELED 314 Teaching of Health and Physical Education **2c-0l-2cr**
Games, stunts, rhythms, relays, tumbling, dances, and skills suitable for the elementary school child. Teaching of health in elementary school is emphasized, including methods, materials, and lesson planning.

ELED 351 Creative Activities in the Elementary School **3c-0l-3cr**
Provides a wide range of creative experiences in fields of art, crafts, music, rhythmics, dramatics, and games in elementary school. Stress is placed upon need to help children in developing their capacities for creative expression in these areas.

ELED 357 Pedagogy II **3c-01-3cr**
Prerequisite: Junior status
Principles based on classroom experience. Instruction includes classroom management skills, integration of computers in the elementary curriculum, contemporary issues in education, the role of research in elementary classroom teaching, and teacher professionalism during and after field experiences. Offered as a writing-intensive course.

ELED 411 Teaching of Social Studies **3c-01-3cr**
An overview of social studies in elementary school. Includes study of objectives, trends, areas of content, patterns and principles of organization, and techniques of teaching. Variety of learning experiences and materials used and evaluated.

ELED 422 Diagnostic and Remedial Reading **3c-01-3cr**
Prerequisite: ELED 222
Causes of reading disability; methods of diagnosis; procedures and materials for remedial work, group and individual.

ELED 425 Language Arts Across the Curriculum **3c-01-3cr**
Prerequisite: ELED 222
Emphasizes the view that the art of communication is an interrelated process, and the task of classroom teachers is not only integrating the language arts among themselves but also integrating them throughout the entire curriculum. Techniques for teaching oral and written communication, spelling, handwriting, vocabulary development, listening, and linguistics are presented. Special emphasis given to recent trends and research. Offered as a writing-intensive course.

ELED 481 Special Topics **var-3cr**
Prerequisite: Approval of instructor and department
A course/seminar on topics in education appropriate for the Elementary Education setting.

ELED 482 Independent Study **var-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ENGL: English
Department of English
College of Humanities and Social Sciences

ENGL 100 Basic Writing **3c-01-3cr**
Develops the basic English skills necessary for clear and effective communication. Restricted to freshmen whose placement testing essay or portfolio score is a four or under. Does not meet General Education English or Liberal Studies writing requirements.

ENGL 101 College Writing **3c-var-4cr**
Prerequisite: ENGL 100, where required by placement testing
Normally to be taken the first semester at IUP. Uses readings in the nature and history of language, semantic and linguistic analysis, and problems in rhetoric and other approaches to composition. Seven theme-length expository papers (or the equivalent) are written, in addition to shorter exercises and a written final examination.

ENGL 121 Humanities Literature **3c-01-3cr**
Prerequisite: ENGL 101
Introduces literature of various genres through a careful analysis of poetry, fiction, and drama. Includes literature of various time periods, nationalities, and minorities.

ENGL 122 Introduction to Literary Analysis **3c-01-3cr**
Prerequisite: ENGL 101
Acquaints students with the literary genres (especially fiction, poetry, and drama) by means of examples of each and provides them with some of the various critical approaches to the interpretation of literature so that they may gain the ability to apply them. At the conclusion of the course, students are expected to be able to read literature perceptively and to write critical papers about it.

ENGL 150 English for Foreign Students **3c-01-3cr**
Provides international students with an opportunity to improve their ability to speak and write English before they take ENGL 100 and 101. Emphasizes individualized exercises and assignments. Carries graduation credit but does not meet Liberal Studies English requirements.

ENGL 202 Research Writing **3c-01-3cr**
Prerequisites: ENGL 101, sophomore standing
Teaches students to read, analyze, and evaluate nonfiction sources and to present the results of their analysis in clear, organized, carefully documented research papers. The focus of reading and research in each section is determined by the instructor.

ENGL 208 The Art of the Film **3c-01-3cr**
Concentrates on the film as an artistic medium. Eight to twelve motion pictures are shown during semester and are analyzed in class discussions.

ENGL 210 British Literature to 1660 **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
Surveys British literature from its beginnings to about 1660, acquainting students with the experience of reading many of the primary materials (whole works whenever possible or full, free-standing parts) and provides them with background information concerning the development and flowering of the various genres, the dominant ideas of each period, and the social and cultural context of the separate works.

ENGL 211 British Literature 1660-1900 **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
Surveys British literature from about 1660 to the beginning of the twentieth century, acquainting students with the experience of reading many of the primary materials (whole works whenever possible or full, free-standing parts) and providing them with background information concerning the development and flowering of the various genres, the dominant ideas of each period, and the social and cultural context of the separate work.

ENGL 212 American Literature: Beginnings to 1900 **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
Provides an understanding of American literature from its beginning to about 1900. Concentrates primarily upon a relatively small number of major works, each of which helps to illustrate the "spirit of the age" it represents.

ENGL 213 British and American Literature Since 1900 **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
A survey of major authors and works in British and American literature since 1900. Begins with the shift from Victorianism and late nineteenth-century literature into modernism, as exemplified by writers such as Woolf, Hemingway, and O'Neill, and continues with postmodernism and contemporary literature.

ENGL 214 The Novel **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
Surveys the development of the novel from Cervantes' *Don Quixote* to the present with an emphasis on major writers and forms in English. Includes consideration of teaching the novel.

ENGL 215 Poetry **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
A study in appreciation of poetry, with special attention to the technique of the poet and structure of poetry. Includes consideration of teaching poetry.

ENGL 216 Short Fiction **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
A study of the development of the short story from the middle of the nineteenth century to the present with attention to form, structure, and types of the story. Includes consideration of teaching short fiction.

ENGL 217 Drama **3c-01-3cr**
Prerequisites: ENGL 101, 122, or permission
The study of selected plays from various periods in an attempt to understand the function of drama. Includes consideration of teaching drama

ENGL 220 Advanced Composition I **3c-01-3cr**
Prerequisite: ENGL 202
Primarily seeks to improve writing style, particularly in the more utilitarian forms, such as magazine article and personal essay.

ENGL 221 Creative Writing **3c-01-3cr**
Prerequisite: ENGL 202
A seminar course in which students are expected to produce a substantial body of written work in one or more of the creative genres, the particular kind of writing chosen with regard to the special interests and abilities of each student.

ENGL 225 Introduction to Literature by Women **3c-01-3cr**
Prerequisites: ENGL 121 or 122 and 202
Major trends and motifs across genres (fiction, nonfiction, poetry, autobiography) which reflect themes and subjects of continuing interest to women writers. The intersection of genre with race, ethnicity, and social class will be of particular significance.

ENGL 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ENGL 301 British Medieval Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines particular literary traditions in England from the eleventh to the fifteenth centuries, excluding Chaucer. Acquaints students with the diversity of materials, ranging from prose to verse, oral to written, and serious to comic. Most texts are taught in the original Middle English, accompanied by side glosses. Translations are used where appropriate. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 302 Renaissance Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines major works and genres in Elizabethan literature such as pastoral and tragedy and key fiction writers, dramatists, and poets during 1558-1603. Rather than survey the period comprehensively, the purpose is to focus closely on a specific literary period and on the writers of this period as selected by the instructor.

ENGL 303 British Enlightenment Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
British Enlightenment Literature refers to the imitation of the Greek and Roman authors of antiquity. Begins with the assumptions and goals of neoclassical literature and integrates the intellectual debates and contemporary politics (patriarchy, nascent capitalism, empire, slavery, class divisions) that flourished alongside of (and that shaped the emergence of) new genres (the slave narrative, the novel, gothic tales, the periodical essay). Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 304 British Romantic Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Emphasizes the relationship between literature and its milieu. Focuses primarily on English Romantic Poets but considers development in Germany, France, and America and examines its continuing manifestations in literature, culture, and politics. Rather than survey the period comprehensively, the purpose is to focus closely on a specific literary period and on the writers of this period as selected by the instructor

ENGL 305 British Victorian Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines literary works against a background of rapidly changing social, economic, religious, and political forces. Countercultural movements, such as the Pre-Raphaelites, are examined against "high Victorianism" to develop a sense of the tremendous intellectual and political energy of the period. Roots of recent concerns such as feminism, political literalism, and capitalism are explored to help us better understand our own as well as the Victorian age. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 306 Modern British Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, and 213
Examines major works and trends in modern British literature, such as modernism or key fiction writers, dramatists, or poets during the first half of the twentieth century. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 307 Contemporary British Literature **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines major works and trends in contemporary British literature, such as late modernism, postmodernism, the age of diminishment, or key novelists, dramatists, and/or poets from the period 1945 to the present. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 310 Public Speaking **3c-01-3cr**
Prerequisite: ENGL 101
Fundamental principles of public speaking, audience analysis, interest and attention, and selection and organization of speech material

ENGL 311 Oral Interpretation **3c-01-3cr**
Prerequisite: ENGL 310
Emphasizes understanding and appreciation of literature through developing skill in reading aloud.

ENGL 312 Speech–Persuasion **3c-01-3cr**
Prerequisites: ENGL 202, 310
An advanced study of problems involved in influencing an audience.

ENGL 313 The Rhetorical Tradition **3c-01-3cr**
Prerequisites: ENGL 101, 310
A survey of rhetorical theory from Greek and Roman through modern times.

ENGL 314 Speech and Communication in the Secondary English Classroom **3c-01-3cr**
Prerequisites: ENGL 122, 202
Offers practical and theoretical approaches to relationships between oral and written communication. Performance based (involving a variety of communication activities) and knowledge based (involving study of research on language arts relationships). Emphasizes integration of the four language arts for improving teachers' own communication skills as well as those of their students.

ENGL 315 American Literature to 1820 **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
The beginnings of American literary cultures from sixteenth-century pre-Columbian indigenous contacts with European explorations, through diverse colonializations (Hispanic, French, and British) including the importation of African slaves, up to the American Revolution and emergent U.S. literary nationalism in the first decades of the nineteenth century. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 316 American Literature 1820-1880 **3c-01-3cr**
Prerequisites: ENGL 202, 210, 211, 212, and 213
Examines major works and trends in U.S. literature, from the Federalist, Romantic, and/or Realistic periods. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 317 American Literature 1880-1940 **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines representative U.S. writers during 1880-1940. Includes traditional figures as well as writers who have recently entered the canon. Rather than survey the period comprehensively, the purpose is to focus closely on particular aspects or writers as selected by the instructor.

ENGL 318 Literature for Adolescents **3c-0l-3cr**
Prerequisites: ENGL 101, 122, or permission. English Education major
Surveys poetry, drama, and fiction with which the adolescent is familiar through school work and personal reading.

ENGL 319 American Literature 1940-Present **3c-0l-3cr**
Prerequisites: ENGL 202 and at least two from
ENGL 210, 211, 212, 213
Additional prerequisites for B.A. English majors:
ENGL 210, 211, 212, 213
Focuses on various movements, themes, genres, and authors writing in the United States since 1940. Not a survey course; each section develops an extended treatment of a particular topic selected by the instructor. Emphasizes writing by living writers to develop an understanding of the diversity, formally and thematically, of current U.S. literary production across genders and ethnicities.

ENGL 320 Advanced Composition II **3c-0l-3cr**
Prerequisites: ENGL 202, 220
A workshop and tutorial atmosphere for students who intend to write or teach writing.

ENGL 322 Technical Writing I **3c-0l-3cr**
Prerequisite: ENGL 202
Focuses on helping the student to acquire and to apply communication skills essential to the technical and professional writer.

ENGL 323 Teaching Literature and Reading in the Secondary School **3c-0l-3cr**
Prerequisites: ENGL 122, 202
Introduces the theory and research on teaching literature and reading in the secondary school. Reviews reader-response literary theory and classroom-based research on teaching literature. Also reviews socio-psycholinguistic reading theory and classroom-based research on teaching reading.

ENGL 324 Teaching and Evaluating Writing **3c-0l-3cr**
Prerequisites: ENGL 122, 202, English Education major or permission
A study of modern approaches to the teaching of writing, including current theories on the composing process, as well as instruction in evaluating, including holistic scoring. Includes practice in writing.

ENGL 325 Creative Writing: Poetry **3c-0l-3cr**
Prerequisites: ENGL 221, instructor permission based on samples of student's work
A writing workshop for students who wish to focus intensively on the writing and revision of poetry and on developing an audience for one's works.

ENGL 326 Creative Writing: Fiction **3c-0l-3cr**
Prerequisites: ENGL 221, instructor permission based on samples of student's work
A writing workshop for students who wish to write fiction under the guidance of an instructor. Focuses intensively on the writing and revision of prose fiction and on developing an audience for one's works.

ENGL 329 The History of the English Language **1c-0l-1cr**
Prerequisite: ENGL 202
Studies historical development of the English language, as a basis for a better understanding of modern American English.

ENGL 330 The Structure of English **3c-0l-3cr**
Prerequisite: ENGL 202
An introduction to the fundamentals of language study with an equal emphasis on the sound, word, sentence, meaning, and discourse patterns of English. Educationally relevant topics, such as applications of linguistics to the teaching of English language and literature, varieties of grammar, and linguistic descriptions of styles and registers are an integral part of the course. Course is a prerequisite for EDUC 452.

ENGL 332 Advanced Film **3c-0l-3cr**
Prerequisites: ENGL 101, 208
Offers a close examination of classic and contemporary films and film theory from a variety of critical perspectives: spectatorship, cinematic authorship, feminism, historiography, genre, and cultural studies. Pays special attention to the treatment of women and African-Americans in film.

ENGL 333 Psycholinguistics **3c-0l-3cr**
Prerequisite: ENGL 202
Concerns the interrelation between language system and behavior and various factors of human psychology. Surveys developments since the 1940s, including relationships between language and perception, biology, memory, meaning, and cognition, as well as oral and written behavior. Students of language and literature may improve their assumptions about how human beings use language.

ENGL 335 The Essay **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 2130
Focuses on the creation and development of the essay in English, its form and content, from its beginnings to the present. Students begin by studying Francis Bacon, the first English essayist, and follow the evolution of the form to the present day.

ENGL 336 Language, Gender, and Society **3c-0l-3cr**
Prerequisites: ENGL 202, junior standing
Investigates the various ways that language and gender interact and intersect in society. Examines such questions as: Does society use language to favor one sex over the other? Why is language a crucial component in formulating constructs of masculinity and femininity? What stereotypes of gender-based language are promoted in our society? How can we analyze language to reveal disparate views and treatment of the sexes?

ENGL 337 Myth **3c-0l-3cr**
Prerequisites: ENGL 202 and at least two from
ENGL 210, 211, 212, 213
Additional prerequisites for B.A. English majors:
ENGL 210, 211, 212, 213
Examines the nature and function of the mythic experience and explores the archetypal patterns of myths from various cultures.

ENGL 338 Oral Literature **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Acquaints students with the nature of oral composition, the habits of thought that orality fosters, and the particular mode of awareness the oral dimension of literature demands of an audience (and awakens in a reader). At the conclusion of the course students should have an understanding of the formulaic nature of such purely oral forms as the ballad and the epic and an awareness of the manner in which orality patterns thought differently from writing, and they should be able to detect oral features and patterns in works of literature from cultures not primarily oral but containing a high "oral residue."

ENGL 344 Ethnic American Literature **3c-0l-3cr**
Prerequisites: ENGL 202 and at least two from
ENGL 210, 211, 212, 213
Additional prerequisites for B.A. English majors:
ENGL 210, 211, 212, 213
Concerned with ethnic U.S. experiences as expressed in poetry, fiction, drama, and autobiography. The topic varies and is announced in advance. Examples include Asian-American, Hispanic, Irish-American, Jewish-American, and Native-American literatures.

ENGL 348 African-American Literature **3c-0l-3cr**
Prerequisites: ENGL 121 or 122 and 202
Primarily nineteenth- and twentieth-century African-American literature (poetry, fiction, nonfiction); includes works by Frederick Douglass, W.E.B. Du Bois, spirituals and folk poetry, Harriet B. Wilson, Jean Toomer,

Richard Wright, Audrey Lorde, and Toni Morrison. Emphasizes historical context and an Afrocentric approach.

ENGL 349 English Bible as Literature **3c-0l-3cr**
Prerequisites: ENGL 121 or 122 and 202
Considers literary aspects of the English Bible by relating earlier translations to the Authorized Version of 1611 and by tracing some of the major influences of the King James Bible upon writers and speakers of modern English. Offers a close reading of the major narrative and poetic portions of the Old Testament.

ENGL 354 Classical Literature in Translation **3c-0l-3cr**
Prerequisites: ENGL 122, 202
Masterpieces studied range from those of ancient Greece to Middle Ages. English literature and American literature excluded.

ENGL 356 Film Theory **3c-0l-3cr**
Prerequisites: ENGL 101, 208
An introduction to major film theories, studied in relation to representative films. Details the complex relationship between film production and film theory; i.e., how theorists have attempted to explain what appears on the screen, its impact, and its relation to "reality," and how filmmakers have responded to the works of theorists (with the two sometimes being the same). Goes far deeper into understanding film than ENGL 208, which focuses mainly on how film is constructed through aesthetic and institutional processes.

ENGL 357 Major Figures in Film **3c-0l-3cr**
Prerequisites: ENGL 101, 208
Studies major artists and their contributions to the development of film as an art form from its beginnings to the present. Close analyses of directors, cinematographers, editors, screenwriters, or actors as individuals or as representatives of a movement in film. Topics vary from semester to semester; thus, one semester may concentrate on a specific director such as Alfred Hitchcock; another semester might study women (as directors, actresses, and editors); and yet another semester might study a collective movement such as film noir.

ENGL 385 Advanced Women's Literature **3c-0l-3cr**
Prerequisites: ENGL 202 and for nonmajors ENGL 225
Considers issues of genre and canon revision and why particular genres may have particular appeal for women writers. While many of our readings are by "literary women," we also consider works by women who were professionals in nonliterary disciplines.

ENGL 386 Regional Literature in English **3c-0l-3cr**
Prerequisites: ENGL 202 and at least two from
ENGL 210, 211, 212, 213
Additional prerequisites for B.A. English majors:
ENGL 210, 211, 212, 213
Examines the contributions of a particular region to national literature. The course focus of the course might be any of the following: Appalachian writers, local color writers, New England writers, Southern writers, writers of the American West, or Canadian writers.

ENGL 387 Irish Literature **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
An introduction to Irish literature since 1800, with particular emphasis on the Literary Revival in the early twentieth century. Key authors include Yeats, Joyce, Synge, O'Casey, Edgeworth, Somerville and Ross, Gregory, Beckett, and Heaney. The development of Irish writing is examined within the contexts of Irish history, language, culture, and politics.

ENGL 390 Literary Tour: Britain **var-3cr**
Offered selected summers, for five weeks during the first or second summer session. Visits London, Stratford, and Cambridge or Oxford, as well as other places important in English literature.

ENGL 391 Selected Works from the Medieval Period **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, ENGL 202
Comparative study of selected works of major importance per se and as representative of major themes of medieval European literature. Also listed as FNLG 391.

ENGL 393 Romanticism **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, ENGL 202
A study of the principal authors and works of late eighteenth-century and early nineteenth-century Europe and the unique national characteristics of the Romantic movement in lyric, drama, and prose. Also listed as FNLG 393.

ENGL 394 Nineteenth-Century European Novel in Translation **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, ENGL 202
A survey of major nineteenth-century European novels in translation (excluding English), emphasizing the rise of realism and naturalism and the cultural, historical, social, and artistic relationships between the various national literatures. Also listed as FNLG 394.

ENGL 395 Selected Writers from Twentieth-Century Europe **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, ENGL 202
A comparative study of selected works of major importance per se or as representatives of major trends in twentieth-century literature. Also listed as FNLG 395.

ENGL 396 The Literature of Emerging Nations **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, ENGL 202
A comparative study of a selection of literature written in major European languages but originating in the nations of the developing world. Works are mainly prose fiction (although essay, theater, and poetry may be included) and reflect a diversity of geographical, cultural, and prior colonial circumstances. Also listed as FNLG 396.

ENGL 397 Global Literature **3c-0l-3cr**
Prerequisite: ENGL 202
Examines major works in English of a particular topic in global literature by focusing on the transnational contexts of history and culture surrounding the production and reception of literature. Topic of global literature to be announced in advance.

ENGL 398 Global Genres **3c-0l-3cr**
Prerequisite: ENGL 202
Focuses on a specific literary genre (including, but not limited to, poetry, drama, film, the short story or the novel) as it has been developed and transformed in global contexts beyond the typical domains of the British or American literary traditions. Situates the use of a genre within transnational literary and historical developments. The global genre studied in a particular semester to be announced in advance.

ENGL 399 Major Global Authors **3c-0l-3cr**
Prerequisite: ENGL 202
Examines major works in English of a single major global author not included in the British or American literary traditions. Situates the author within major transnational literary and historical developments. Major author to be studied in particular semester to be announced in advance.

ENGL 401 Advanced Literary Theory and Criticism **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Acquaints students with major issues and problems in literary theory. Rather than survey the history of criticism and theory, the focus is on modern and contemporary critical schools and methods. Introduces students to a select group of influential theories and theorists and how such theories impact the way we read, study, and teach literature and cultural studies.

ENGL 420 Special Writing Applications **3c-0l-3cr**
Prerequisite: ENGL 220
Offers students who are well into their disciplines "forums" for advanced reading and writing about the cultural, professional, and personal uses of textual knowledge. Students read, analyze, and compose essays that build meaning around disciplinary knowledge, independent reading, and personal

or preprofessional experience. They are encouraged to make connections between disciplinary knowledge and emerging knowledge or experience.

ENGL 422 Technical Writing II **3c-0l-3cr**
Prerequisite: ENGL 322
An advanced workshop/tutorial that provides intensive instruction in technical writing. Technical Writing II builds on the basics of audience, readability, proposals and reports, letters, memos, and resumes which are covered in Technical Writing I. Describes the writer's role in such areas as legal and ethical aspects of technical communication; planning, testing, reviewing, and evaluating documents; and proofreading and editing.

ENGL 426 ESL Methods and Materials **3c-0l-3cr**
Prerequisite: Senior standing or instructor permission
An introduction to English as a Second Language theory and practice. Aims: (1) general understanding of current theory and methods of teaching ESL; (2) ability to select appropriate, and adapt existing, materials for elementary and high school ESL students. (Offered as ENGL 334 prior to 2003-04)

ENGL 430 Major British Author **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines major works of a single major author, including biographical, literary, and cultural contexts. Places the author within both intellectual/cultural history and literary developments. Major author studied in a particular semester to be announced in advance.

ENGL 432 Chaucer **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Studies Chaucer, his life, his language, the development of his literary style, and his art, with and through his major poetical works.

ENGL 434 Shakespeare **3c-0l-3cr**
Prerequisites: ENGL 202 and at least two from ENGL 210, 211, 212, 213
Additional prerequisites for B.A. English majors: ENGL 210, 211, 212, 213
Studies Shakespeare's development as a poetic dramatist against background of Elizabethan stage; examines audience, textual problems, language imagery, and philosophy.

ENGL 436 Major American Authors **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Studies in the literary output of a major American author or authors against the background of the social and literary milieus in which the works were created. Specific subject or subjects to be announced by the instructor.

ENGL 460 Topics in Film **3c-0l-3cr**
Prerequisites: ENGL 101, 208
Selected films dealing with a specific, advanced topic are viewed and assessed to explore the different roles that film plays. Topic to be announced in advance.

ENGL 461 Topics in British Literature **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines major works of a particular topic in British literature by focusing on its cultural and literary contexts. Topic to be announced in advance.

ENGL 462 Topics in American Literature **3c-0l-3cr**
Prerequisites: ENGL 202, 210, 211, 212, 213
Examines major works of a particular topic in American literature by focusing on its cultural and literary contexts. Topic to be announced in advance.

ENGL 480 Seminar: Studies in English and American Literature **var-3cr**
Prerequisites: ENGL 101, 122, 202
Corequisites: ENGL 211, 212, 213, or permission
A seminar experience designed for advanced students. Students considering graduate work in English might well wish to enroll, but students with a variety of career goals–business, industry, law, government service–can take advantage of this opportunity to plan a schedule of independent study with the help of a faculty mentor.

ENGL 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Vary from semester to semester covering such diverse topics as autobiography, science fiction, folklore, the political novel, black theater, etc.

ENGL 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ENGL 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

ENGL 493 Internship **var-3-12cr**
On-the-job training opportunities in related areas. Application and acceptance to internship program required.

ENVH: Environmental Health Science
Department of Biology
College of Natural Sciences and Mathematics

ENVH 221 Environmental Health and Protection I **2c-3l-3cr**
Prerequisites: BIOL 104 or 112, CHEM 102 or 112
A survey of environmental disease hazards as they relate mostly to the outdoor environment. Environmental health and safety concerns are addressed from the standpoint of their source and nature, human and ecological effects, measurement, and control. (Offered as BIOL 321 prior to 2003-04)

ENVH 222 Environmental Health and Protection II **2c-3l-3cr**
Prerequisites: BIOL 104 or 112, CHEM 102 or 112
A survey of environmental disease hazards as they relate mostly to the indoor environment. Environmental health and safety concerns are addressed from the standpoint of their source and nature, human health effects, measurement, and control. (Offered as BIOL 322 prior to 2003-04)

ENVH 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ENVH 310 Applied Entomology and Zoonoses **2c-3l-3cr**
Prerequisite: BIOL 220 or permission
A study of the measures for abatement or control of arthropods, rodents, birds, and other disease vectors of public importance; selection, chemistry, formulation, and safe application of insecticides, rodenticides, and fumigants; pesticiding equipment; application of biological and other measures of control. (Also offered as BIOL 310; may not be taken for duplicate credit)

ENVH 323 Introduction to Toxicology and Risk Assessment **3c-0l-3cr**
Prerequisites: BIOL 104 or 112; CHEM 102 or 112; or permission
A study of uptake, distribution, metabolism, and excretion of environmental chemicals; mechanisms of their toxicity; and their effects on major organ systems. Knowledge of these topics is applied to risk assessment procedures. (Also offered as BIOL 323; may not be taken for duplicate credit)

ENVH 460 Fundamentals of Environmental Epidemiology 3c-0l-3cr
Prerequisites: BIOL 104 or 112; MATH 216 or 217; or instructor permission
A study of the health consequences of involuntary exposure to harmful chemical and biological agents in the general environment. Disease etiology, occurrence, and intervention in human populations are examined through epidemiologic study using analytical methods and applications. (Also offered as BIOL 460; may not be taken for duplicate credit)

ENVH 481 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

ENVH 482 Independent Study var-1-3cr
Prerequisites: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources. Work is supervised by a faculty member but does not involve regular class or laboratory hours.

EOPT: Electro-Optics
Department of Physics
College of Natural Sciences and Mathematics

EOPT 105 Computer Interfacing in Electro-Optics 2c-3l-3cr
Teaches the fundamentals of interfacing the personal computer to its physical surroundings such as electro-optics equipment. Students do graphical programming and learn to use virtual instruments in order to collect data and to control experiments. Students use a program that employs graphical block diagrams that compile into machine code. Includes a lab component.

EOPT 110 Geometric Optics 2c-3l-3cr
Corequisite or Prerequisite: PHYS 100
Introduces the principles and theory of light as a geometric ray and gives an elementary treatment of image formation. Topics include reflection, refraction, prisms, lenses, mirrors, pupils, stops, aberrations, optical instruments, aspherical surfaces, and optical system design and evaluation. Includes a lab component.

EOPT 120 Wave Optics 2c-3l-3cr
Prerequisite: EOPT 110
Corequisite or Prerequisite: MATH 110 or 121
Provides the basic knowledge of the wave nature of light. Topics include spectral characteristics of light, propagation of light, interference, diffraction, polarization, windows, filters, beam splitters, and gratings. Includes a lab component.

EOPT 125 Introduction to Electronics 3c-3l-4cr
Corequisite or Prerequisite: MATH 110 or 121
Introduces basic analog and digital electronics. Emphasizes direct current (DC) circuits and networks utilizing Ohm's Law and focused upon the use of electronic instrumentation and design using operational amplifiers as "black box" building elements. In addition, the digital component of the course covers basic digital logic and its implementation in hardware using integrated circuit-based logic gates and counters. Includes a lab component.

EOPT 210 Detection and Measurement 2c-3l-3cr
Prerequisites: EOPT 120 and 125
Covers electronic amplification, optical detectors, and the measurement of small distances using interference effects. Operational amplifiers are used to build circuits to measure the output of photon and thermal detectors. In order to accurately measure properties such as wavelengths, absorption of wavelengths, defects in lenses, prisms, and flat plates, the following instruments are used by the students: monochromators, spectrophotometers, and interferometers. Includes a lab component.

EOPT 220 Introduction to Lasers 2c-3l-3cr
Prerequisite: EOPT 120
Different types of incoherent light sources are discussed and investigated. The concepts of laser safety are introduced. The elements and operation of an optical power meter are covered. The energy-level diagrams and the energy-transfer processes in the active medium are discussed. The spatial and temporal properties of lasers are investigated along with other characteristics such as modes of oscillation. Some applications of lasers are investigated. Includes a lab component.

EOPT 240 Fiber Optics 2c-3l-3cr
Prerequisite: EOPT 120
Covers basic concepts in fiber optics such as dispersion, attenuation, and single-mode and multimode propagation. Fiber optic test equipment such as optical time domain reflectometers and optical power meters is discussed and investigated. Sources, detectors, and optical amplifiers are covered. Includes a lab component.

EOPT 250 High-Vacuum Technology 2c-3l-3cr
Prerequisite: PHYS 116
Teaches how to produce and measure a vacuum. Presents the properties of gases and the concepts of fluid flow and pumping. Many different kinds of vacuum pumps are discussed in detail. The concept of measuring a vacuum is introduced through the discussion of vacuum gauges and gas analyzers. Covers the techniques of leak detection and thin film deposition. The concept of ultrahigh vacuum is touched upon. Includes a lab component.

EOPT 260 Industrial Applications of Lasers 2c-3l-3cr
Prerequisite: EOPT 220
Laser power and energy measurements are made. The theory and applications of industrial lasers are covered. Material processing such as welding, cutting, and hole drilling will be discussed, implemented, and analyzed. The role of optics in laser machining is covered. Laser safety is emphasized. Includes a lab component.

FCSE: Family and Consumer Sciences Education
Department of Human Development and Environmental Studies
College of Health and Human Services

FCSE 281 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

FCSE 350 Teaching Family Life Education 3c-0l-3cr
Prerequisites: FCSE 250, EDUC 242
Corequisite: EDSP 102
Emphasizes teaching family life education in family and consumer sciences classrooms and through community organizations and agencies. Lessons are planned and implemented using a variety of instructional methods incorporating adaptations and modifications for special needs learners, basic skills, global concerns, and use of a problem-solving/decision-making approach. Planning of content, learning activities, instructional materials, and evaluation based on clearly stated objectives are emphasized. A microcomputer spreadsheet is utilized to manage a department budget and a gradebook. Participation in professional organization activities is expected.

FCSE 450 Teaching Vocational and Family Consumer Services Education 3c-0l-3cr
Prerequisite: FCSE 350
Emphasizes teaching vocational family and consumer sciences in consumer/homemaking and occupational family and consumer sciences programs. Federal legislation impacting on family and consumer sciences is analyzed for use in program decisions. Emphasizes program development using CBVE model, development of individual learning packets, vocational youth organizations, advisory committees, family and consumer sciences and vocational educational priorities, professional organizations, proposal development for funding, impact on public policy, marketing family and

consumer sciences, and development of a personal philosophy of family and consumer sciences education.

FCSE 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

FCSE 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Upper-level students with high scholastic achievement pursue their particular interests outside the realm of the organized home economics education curriculum. May be taken more than once to a maximum of 3cr. Approval is based on academic appropriateness and availability of resources.

FDED: Foundations of Education
Department of Foundations of Education
College of Education and Educational Technology

FDED 102 American Education in Theory and Practice **3c-0l-3cr**
Familiarizes prospective teachers with the history and philosophy of American education and with some of the practical aspects of teaching in the American public school classroom. (Offered as FDED 202 prior to 2001-02)

FDED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

FDED 440 Orientation to Teaching in Urban Centers **3c-0l-3cr**
Provides an understanding of learners and their unique learning needs and conditions. Emphasizes understanding the origin of attitudes and values and how these affect the relationships which exist between students and teachers. Special attention to practical application of theoretical information to problems of urban education. Field trips and guest speakers are emphasized.

FDED 441 Field Experiences in Urban Centers **var-1-6cr**
Prerequisite: FDED 440
Provides specialized experience for students desiring to teach in inner-city schools. Aspects to be emphasized include physical characteristics of community, background and aspirations of children and youth, and specialized teacher competencies, classroom management, planning, instructional materials, teaching strategies, and evaluations. Records of comprehensive experiences in urban areas are considered in making field experience assignments. Schools selected for student experience are located in Pittsburgh.

FDED 442 Interpreting Urban/Field Experiences **var-3cr**
Prerequisites: FDED 440, 441
Evaluation of learning and behavior problems encountered during field experience in urban schools. Flexible approach stressed to encourage wide range of investigation and exploration of psychological and sociological problems as they affect education. Supervision and guidance for investigating specific problems provided by specialists from psychology, sociology, and education who function as resource personnel giving direction. Enables students to combine experiences gained by teaching in urban schools with recent and pertinent theoretical information.

FDED 454 Public School Administration **3c-0l-3cr**
The study of the development of public school administration; current organizational patterns for public education at the local, county, state, and national levels; and the impact of administration upon the total educational program.

FDED 456 Issues and Trends in Education **3c-0l-3cr**
Critical analysis of issues and trends in education with emphasis on philosophical and social dimensions of topics covered. Attention to work of some major contemporary critics of education.

FDED 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

FDED 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

FDNT: Food and Nutrition
Department of Food and Nutrition
College of Health and Human Services

FDNT 110 Careers in Food and Nutrition **1c-0l-1cr**
Career possibilities for nutrition majors are explored. Students are guided in clarifying their professional goals and become acquainted with the educational and experiential requirements necessary to attain these goals.

FDNT 143 Nutrition and Wellness **3c-0l-3cr**
Introduces the major components of wellness: contemporary nutrition issues as they relate to personal food choices, physical fitness, stress management, sexually transmitted diseases, AIDS, and substance abuse. Completion of FDNT 143 fulfills the Liberal Studies Health and Wellness requirement.

FDNT 145 Introduction to Nutrition **3c-0l-3cr**
Provides an understanding of essential nutrients and their roles in the body, as well as the changing nutritional needs of an individual throughout the lifespan. Includes the impact of exercise and food choices on metabolism, body composition, and weight control; nutrition misinformation; consumer issues; commercially prepared foods; and major diseases that are affected by eating behaviors.

FDNT 150 Foods **3c-0l-3cr**
Prerequisite: CHEM 101 or 111
Corequisite: FDNT 151
Basic principles of food: composition, sanitation, preparation, and preservation.

FDNT 151 Foods Laboratory **1c-3l-1cr**
Corequisite: FDNT 150
Application of basic principles of food preparation.

FDNT 212 Nutrition **3c-0l-3cr**
Prerequisite: CHEM 102 or 112
Sources and functions of nutrients, interdependence of dietary essentials, and nutritive value of an optimum diet are studied. Attention given to varied conditions in human life.

FDNT 213 Life Cycle Nutrition **3c-0l-3cr**
Prerequisite: FDNT 212
A detailed study of nutrition which applies information from FDNT 212 to all stages of the life cycle; current issues and research as they impact on these developmental stages.

FDNT 245 Sports Nutrition **3c-0l-3cr**
Prerequisite: FDNT 145 or 212
Emphasizes knowledge and application of sports nutrition principles. The impact of the macro- and micro-nutrients on physical performance will be

discussed in light of current scientific research and applied to realistic dietary recommendation for all types and levels of athletes.

FDNT 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students

FDNT 355 Nutrition in Disease I **3c-0l-3cr**
Prerequisites: FDNT 212, BIOL 155 or 150-151
Basic tools for diet modification: food exchange systems; interviewing techniques; nutrition assessment; professional practice; dietary treatment of caloric imbalance, diabetes, and cardiovascular disease. Taught Fall semester only.

FDNT 357 Special Problems in Foods **0c-4l-3cr**
Prerequisite: FDNT 150
Individual problems in foods investigated with emphasis on identified weaknesses in the student's knowledge of food.

FDNT 362 Experimental Foods **2c-3l-3cr**
Prerequisites: FDNT 150, FDNT 355 or concurrently, MATH 217
The experimental study of foods, relating chemical and physical properties to reactions and processes occurring in food systems.

FDNT 364 Methods of Teaching **3c-0l-3cr**
Prerequisite: FDNT 213
Current teaching techniques and resource materials in nutrition education are emphasized. Emphasizes all forms of nutrition education, including classroom instruction, in-service training of employees, and community-based education.

FDNT 402 Community Nutrition **3c-0l-3cr**
Prerequisite: FDNT 212
Nutritional implications of both good and poor nutrition for all age groups in home and community situations are studied. Corrective and preventive measures emphasized. Taught Spring semester only.

FDNT 410 Food, Nutrition, and Aging **3c-0l-3cr**
Prerequisite: Junior status
Relationship of food to health maintenance and special dietary problems during the middle and later years.

FDNT 430 Professional Topics in Food and Nutrition **3c-0l-3cr**
Prerequisites: FDNT 355, 364, HRIM 256, and PSYC 101
Topics include promoting food and nutrition services and programs, career planning and development, ethical challenges to dietitians, quality assurance standards, and impact on the legislative process.

FDNT 444 Food Composition and Biochemistry **3c-0l-3cr**
Prerequisite: CHEM 255
Basic chemistry and biochemistry of essential components of food originating from plant and animal sources.

FDNT 447 Nutritional Aspects of Food Technology **3c-0l-3cr**
Prerequisites: BIOL 241 and FDNT 212; junior status
A study of current known effects of food processing techniques on the nutritional value and safety of foods.

FDNT 455 Nutrition in Disease II **3c-0l-3cr**
Prerequisite: FDNT 355
Dietary treatment of disorders of the gastrointestinal, renal, cardiovascular, and hepatic systems; inborn errors of metabolism; allergies; cancer. Therapeutic quackery. Food sampling experiences. Taught Spring semester only.

FDNT 458 Advanced Human Nutrition **4c-0l-4cr**
Prerequisites: CHEM 255 or 351, FDNT 355, MATH 217
In-depth study of the nutrients and their function within the cell. Incorporation of the principles of physiology and biochemistry in the study of nutrition. Emphasizes applying current research and evaluation of research methodology. (Does not count toward M.S. Food and Nutrition degree requirements)

FDNT 461 Microwave Cooking Technology **2c-2l-3cr**
The study of the electronic technology, selection, care, and use of the microwave oven. Includes basic physical and chemical concepts related to microwave cooking. Individual investigative research problems are required.

FDNT 462 Advanced Experimental Foods **1c-4l-3cr**
Prerequisites: CHEM 231, FDNT 362
An experimental approach to the many factors influencing the chemical and physical properties of food. Use of the scientific method in developing an individual project combining an evaluation of current literature and appropriate sensory and analytical methodology.

FDNT 463 Nutrition Counseling **2c-3l-3cr**
Prerequisites: FDNT 355, PSYC 101, FDNT 455 or concurrently
Use of intervention strategies in prevention and treatment of disease through diet. Supervised practicum (3 hours per week) counseling clientele in normal and therapeutic nutrition.

FDNT 464 Food and Nutrition Research Methods **3c-0l-3cr**
Prerequisites: CHEM 351, FDNT 362, 458, and MATH 217
An introduction to research methodology in foods and nutrition. Includes theory and techniques of physical, chemical, and instrumental analysis. Applications of these methods to food and animal models with statistical analysis of data.

FDNT 470 Human Food Consumption Patterns **3c-0l-3cr**
Prerequisites: One social science course and junior standing
An exploration of human food consumption behaviors from food production to individual and societal consumption patterns. Influencing factors discussed include agronomic, economic, geographic, sociologic, nutritional, political, and psychological factors. The ethics and morality of food distribution are discussed. Students may not enroll in this course if they have taken the corresponding section of LBST 499.

FDNT 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

FDNT 482 Independent Study **var-1-6cr**
Prerequisites: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office; must have earned 60cr
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

FDNT 484 Senior Seminar **1c-0l-1cr**
Prerequisite: Senior status
Emphasizes individual review of food and nutrition literature with formal presentation and discussion of current research.

FDNT 493 Internship **var-6-12cr**
Prerequisite: Must have earned 57cr
An opportunity to work away from the university in supervised job situations at health care facilities, restaurants, or other institutional food service or lodging establishments. Objective is to provide students with job-related experiences. Must meet university internship requirements.

Note: White uniforms including white shoes are required for all lab courses where food is prepared. Students must meet the professional dress requirements of the department.

FIAR: Fine Arts
College of Fine Arts

FIAR 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

FIAR 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

FIAR 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

FIAR 493 Internship **var-3-12cr**
Covers the areas of the visual and performing arts.

FIN: Finance
Department of Finance and Legal Studies
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

FIN 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

FIN 310 Fundamentals of Finance **3c-01-3cr**
Prerequisites for Business majors: ACCT 202, MATH 214
Prerequisites for non-Business majors: ACCT 202, MATH 214 or 217 (MATH 214 recommended)
The study of valuation models, financial statement analysis and forecasting, capital budgeting methods, and working capital management. Also includes an introduction to risk and return, capital markets and institutions, and security valuation.

FIN 315 Financial Analysis Using Electronic Spreadsheets **3c-01-3cr**
Prerequisite: BTED/COSC/IFMG 101
Develops the financial students' computer modeling and analysis skills. Teaches how to utilize current computing resources, electronic spreadsheet, and other computing software to analyze, model, and solve a variety of financial problems. (Offered as FIN 355 prior to 2002-03)

FIN 320 Corporate Finance **3c-01-3cr**
Prerequisites: FIN 310
The study of corporate financial management and decision-making, its theory, and application. Provides a higher level of study and many of the same topics covered in Fundamentals of Finance, particularly in the area of capital budgeting. Other topics include capital asset pricing models, costs of capital, capital structure, leasing bond refunding, and financial distress.

FIN 324 Principles of Investments **3c-01-3cr**
Prerequisite: FIN 310
An introduction to securities markets, trading, and valuation. Topics include security types and characteristics, the mechanics of trading, valuation models for fixed-income securities and common stock, mutual fund evaluation, basics of options and futures, and tax-advantaged investments.

FIN 350 Short-Term Financial Management **3c-01-3cr**
Prerequisites: FIN 310, 315
Provides the conceptual framework and analytical techniques for the short-term financial decisions made by the practicing manager as related to the corporate cash and marketable securities, inventory, accounts receivable, accounts payable, and the short-term borrowing and investing activities.

FIN 360 Insurance and Risk Management **3c-01-3cr**
Prerequisites: FIN 310, 315
Covers the nature of risk, the application of the risk management process to business risk management problems, and the essentials of insurance contracts and insurance markets. Appropriate methods of risk control and risk financing are discussed. The primary focus is on accidental losses resulting from situations involving pure risks, although financial risk management techniques for dealing with speculative risks are introduced.

FIN 410 Financial Institutions and Markets **3c-01-3cr**
Prerequisite: FIN 324
A review of the structure of financial institutions and money and capital markets. Provides the knowledge of the theory and practices of managing financial institutions, with particular emphasis on the management of financial risks.

FIN 420 Investment Analysis **3c-01-3cr**
Prerequisites: FIN 320, 324
Integrates the work of the various courses in the finance areas and familiarizes the student with the tools and techniques of research in the different areas of investments.

FIN 422 Seminar in Finance **3c-01-3cr**
Prerequisites: FIN 320, 324, seniors only
Primarily for the senior Finance major, covers topics in all areas of finance by using recent articles, cases, discussions, speakers, and a financial simulation game.

FIN 424 International Financial Management **3c-01-4cr**
Prerequisite: FIN 310
The financial management concepts, useful in a single-country context, are adapted for the international variables and constraints caused by being international. Provides an insight into unique issues and problems the manager of the multinational enterprise will face, such as working capital management; capital budgeting process; financing and investing abroad; capital and money markets; foreign exchange markets; and risk management.

FIN 425 Financial Derivatives **3c-01-3cr**
Prerequisites: FIN 320, 324
Provides an understanding of how the derivatives markets work, how they are used, and how prices are determined. Includes the common types of derivatives, their characteristics and properties, and trading methods and strategies. Also covers fundamental pricing models based on arbitrage pricing theory, binomial, and Black-Scholes models. (Offered as FIN 385 prior to 2002-03)

FIN 481 Special Topics **var-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

FIN 482 Independent Study **var-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office

Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

FIN 493 Finance Internship **var-3-12cr**
Prerequisites: FIN 310, 315, 324, prior approval through advisor, faculty member, department chairperson, and dean
Minimum cumulative 2.0 GPA, major 2.5 GPA
Provides practical experience in the finance field to develop knowledge and provide application of theory to actual problems in a non-classroom situation. 3cr are awarded for at least 120 hours of on-site work, up to 12cr for at least 480 work hours. A maximum of 3cr may be applied toward the finance major area elective requirements. Additional internship credits must be used as business electives only.

FNLG: Study Abroad and Comparative Literature (Foreign Language)
College of Humanities and Social Sciences

FNLG 100 Study Abroad **var-1-12cr**
Registration mechanism and limited credit arrangement as provided in preapproval process for Study Abroad programs coordinated through the International Affairs Office.

FNLG 121 Humanities Literature **3c-0l-3cr**
Introduces works, authors, and genres of general literary significance in the Western tradition. Not organized historically but trains the student in the critical reading and appreciation of literature from the present and other periods. Authors, works, and themes are studied with respect to cultural context, aesthetic form, and thematic significance. Taught in English. Substitutes for ENGL 121.

FNLG 391 Selected Works from the Medieval Period **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, 202
A comparative study of selected works of major importance per se and as representative of major themes of medieval European literature. Also listed as ENGL 391.

FNLG 392 Renaissance/Baroque/Classical **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, 202
Literary works representing various genres from both periods are studied and compared for their themes, motifs, and stylistic features, applying principles set forth in H. Wolffin's *Renaissance and Baroque*.

FNLG 393 Romanticism **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, 202
The study of the principal authors and works of late eighteenth- and early nineteenth-century Europe and the unique national characteristics of the Romantic movement in lyric, drama, and prose. Also listed as ENGL 393.

FNLG 394 Nineteenth-Century European Novel in Translation **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, 202
A survey of major nineteenth-century European novels in translation (excluding English), emphasizing the rise of realism and naturalism and the cultural, historical, social, and artistic relationships between the various national literatures. Also listed as ENGL 394

FNLG 395 Selected Writers from Twentieth-Century Europe **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, 202
A comparative study of selected works of major importance per se or as representatives of major trends in twentieth-century literature. Also listed as ENGL 395.

FNLG 396 The Literature of Emerging Nations **3c-0l-3cr**
Prerequisites: ENGL/FNLG 121 or ENGL 122, 202
A comparative study of a selection of literature written in major European languages but originating in the nations of the developing world. Works are mainly prose fiction (although essay, theater, and poetry may be included) and reflect a diversity of geographical, cultural, and prior colonial circumstances. Also listed as ENGL 396.

FNLG 421 Language and Society **3c-0l-3cr**
Considers salient facts of language and its role in society and culture. Language families, linguistic change, and reciprocal influences of culture and language are presented.

FNLG 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

FRNC: French
Department of French and German
College of Humanities and Social Sciences

FRNC 101 Basic French **4c-0l-4cr**
For the student beginning the study of French or who needs remedial study before beginning the intermediate sequence. Primary emphasis is on the mastery of French pronunciation and oral communication. Students learn to converse in simple present time and become acquainted with location of Francophone populations and elements of their daily lives. Attendance and Foreign Language Learning Enhancement Center practice is required.

FRNC 201 College French I **3c-0l-3cr**
The initiation of college-level mastery of basic language skills and exposure to cultural materials. Supplements beginners' oral competency with more advanced reading and writing. Emphasizes narration in the past. Efforts are made to practice skills and comprehend texts in authentic cultural contexts. Liberal Studies elective credit is given for this course.

FRNC 202 College French II **3c-0l-3cr**
Prerequisite: FRNC 201 or equivalent
Continues the college-level mastery of language skills. The ability to narrate present and past is intended to express opinion and hypothesis. Emphasizes acquiring greater skill in reading literary and cultural texts. Liberal Studies elective credit is given for this course.

FRNC 203 Accelerated College French **6c-0l-6cr**
Develops listening and speaking skills through an immersion method. Students use present, past, and future to indicative tenses in intensive aural/oral interaction and are expected to make use of the audio and video capabilities of the Foreign Language Learning Center on a weekly basis. Liberal Studies elective credit is given for this course.

FRNC 253 Intermediate Composition and Conversation **3c-0l-3cr**
Intermediate course in grammar, reading, composition, and some oral work. Can substitute for or be in addition to FRNC 202 for majors or serious students.

FRNC 254 Civilization of Modern France **3c-0l-3cr**
Prerequisite: FRNC 202 or equivalent
A study of modern French culture and civilization–social institutions, government, industry, economics, and geography. Development of all language skills for use in business situation in French-speaking environment. Emphasizes acquisition of an active knowledge of the business world.

FRNC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

FRNC 301 Portraits of Women in the French Novel **3c-0l-3cr**
Explores the polarity of the treatment of female characters in the French novel. Explores differences of treatment by male and female writers through inclusion of women novelists. Provides a chronological survey of the development of the novel in France from the seventeenth to the twentieth centuries.

FRNC 331 Intermediate French Conversation **3c-0l-3cr**
Prerequisite: FRNC 202
Emphasizes development of communication skills, vocabulary, and discourse strategies. Activities include directed conversations, video- and audio-based listening comprehension, and role play and other simulations.

FRNC 341 French Grammar **3c-0l-3cr**
Prerequisite: FRNC 202
Reviews and refines knowledge of French grammatical structure, including question formation, description, comparison, and present and past narration. Emphasizes written expression.

FRNC 353 Intermediate French Composition **3c-0l-3cr**
Prerequisite: FRNC 202
Includes intensive practice in written expression in French. Emphasizes the development of communicative skills as well as knowledge of French structure. Taught in French.

FRNC 354 Business French **3c-0l-3cr**
Prerequisite: FRNC 254 or instructor permission
The study of principles and practices of business communication in French secretarial and administrative procedures with an emphasis on the planning and writing of business letters, reports, and abstracts of articles in business and economics.

FRNC 370 Introduction to French Literature **3c-0l-3cr**
Prerequisite: FRNC 341 or 353
Develops French reading skills, to provide tools for literary interpretation of texts, and to introduce major literary works of France and the French-speaking world.

FRNC 373 French Civilization **3c-0l-3cr**
Prerequisite: FRNC 202
Covers the historical development of French high culture exclusive of literary genres (i.e., prose, poetry, theater). Presents an overview of political and intellectual history, music, art, and architecture. Certain content areas receive special emphasis at the instructor's discretion.

FRNC 375 French Literature from Medieval through Seventeenth Century **3c-0l-3cr**
Prerequisite: FRNC 370
Introduces the major developments in French literature and thought from the Medieval through the seventeenth century. Includes an overview of major French literary genres: novel, poetry, and theater. Readings and discussion are in French.

FRNC 376 French Literature from Eighteenth through Twentieth Century **3c-0l-3cr**
Prerequisite: FRNC 370
Introduces the major developments in French literature and thought from the eighteenth century to the present. Includes an overview of major French literary genres: novel, poetry, and theater. Readings and discussion are in French.

FRNC 390 Teaching Elementary School Content in French and German **3c-0l-3cr**
Prerequisite: Instructor permission
Explores issues relevant to the teaching and learning of French and German in the elementary school (grades K-8). Current theories of child second-language acquisition will be treated. These theoretical foundations form the basis for the development of objectives and activities that integrate the teaching of foreign language and culture with elementary school subject content. Students gain practical experience in planning and implementing lessons, assessing student learning, and selecting materials appropriate to the needs and interests of young learners.

FRNC 431 Advanced French Conversation **3c-0l-3cr**
Prerequisite: FRNC 331
Builds on the communication skills acquired in FRNC 331. Focuses on the development of advanced vocabulary and discourse strategies. Activities include in-depth discussion and debate of current events and real-life problems.

FRNC 432 French Phonetics and Phonology **3c-0l-3cr**
Prerequisite: FRNC 331 or equivalent
Presents an introduction to the sound system of French and provides training in standard French pronunciation. Basic issues on phonological theory and description are examined. Students refine their own pronunciation of French through classroom practice, oral presentations, and tape recordings.

FRNC 441 Advanced French Grammar **3c-0l-3cr**
Prerequisite: FRNC 341
Builds upon previous knowledge of French grammar, with a view to perfecting control of more complex structures. These structures include complex sentences, the subjunctive, hypothetical statements, and passive voice. Emphasizes written expression.

FRNC 460 Studies in French Literature **3c-0l-3cr**
Prerequisite: FRNC 375 or 376
Provides a flexibly designed syllabus permitting instructors and students to explore areas of special interest in French literature and culture. Content varies according to the instructor's desired focus for a given semester. Conducted in French or English at the instructor's discretion.

FRNC 462 Studies in French Language and Linguistics **3c-0l-3cr**
Prerequisite: FRNC 353 or equivalent
Explores some topic relevant to French language and linguistics. Possible topics include: French around the world, history of the French language, French applied linguistics. (Total pages read in French for the course should be more than 150.)

FRNC 463 Studies in French Culture and Civilization **3c-0l-3cr**
Prerequisite: FRNC 353
Aspects of current French culture and civilization are explored and assessed particularly in relation to French governmental and cultural institutions.

FRNC 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times.

FRNC 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources. An opportunity to engage in an in-depth analysis of some topic dealing with the French language and culture through consultation with a faculty member.

FRNC 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

FRNC 493 Internship **var-3-12cr**
Prerequisite: One semester of study in France
A supervised field experience in France with approved public agencies and institutions or private firms; no longer than one semester and no less than

one month. Positions are matched as closely as possible with the intern's personal interests and professional goals. For more information, contact the director of the Internship Abroad Program.

FSMR: Fashion Merchandising
Department of Human Development and Environmental Studies
College of Health and Human Services

FSMR 110 Introduction to Fashion **3c-0l-3cr**
A survey of aesthetic, cultural, sociopsychological, and economic factors related to the meaning and use of clothing for the individual and society.

FSMR 112 Fundamentals of Clothing Construction **1c-3l-3cr**
Principles and techniques involved in fundamental clothing construction and fitting are analyzed. Directed laboratory experiences provide an opportunity to solve individual problems in garment structure through the application of principles.

FSMR 212 Advanced Clothing Construction **1c-3l-3cr**
Prerequisite: FSMR 112 or placement (by exam)
Principles of advanced fitting and clothing construction are applied and analyzed. Offered even years, Fall semester.

FSMR 252 Aesthetics of Fashion **1c-0l-3cr**
Prerequisite: Sophomore standing
The study of contemporary apparel design and the relationship of design elements and principles to personal characteristics and social/professional orientation.

FSMR 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

FSMR 303 Visual Merchandising **3c-0l-3cr**
Design and arrange display and selling areas in relationship to merchandising trends and consumer demands. Emphasizes promotion techniques and merchandise sales through effective use of space, design, and color.

FSMR 314 Textiles **3c-0l-3cr**
Prerequisites: CHEM 101 and 102 or SCI 105 and 106
An interpretation of basic textile knowledge with emphasis on fiber, yarn, fabric structure, coloration, and fabric finishes. Discussions include importance of factors related to consumer information, protection, and satisfaction.

FSMR 350 Apparel Industry I **3c-0l-3cr**
Prerequisites: FSMR 110, completion of 57cr
Introduces the design, production, and distribution of apparel, including primary textile markets; women's, men's, and children's wear; accessories; fashion centers; retailers of fashion; apparel wholesale selling process; fashion store image; and future trends.

FSMR 356 Historic Textiles **3c-0l-3cr**
A study of the development of textiles from ancient times to present day with special emphasis on techniques used in constructing historic textiles. (Offered as FSMR 457 prior to 2002-03)

FSMR 357 Global Issues in Textiles and Apparel **3c-0l-3cr**
Prerequisite: ECON 121
The study of the global textiles and apparel industry with emphasis on the U.S. textile complex and the U.S. market within an international context.

FSMR 360 Apparel Industry II **3c-0l-3cr**
Prerequisites: FSMR 350 and Liberal Studies math requirements
Introduces the merchandising and promotion of apparel, including organization, buying responsibilities, techniques, and resources; various retail institutions, resident buying offices, apparel dollar planning and control, apparel merchandise assortment planning, apparel buying practices, application of apparel planning and buying, and apparel advertising and promotion. (Offered as FSMR 450 prior to 2002-03)

FSMR 385 Ready-to-Wear Analysis **1c-3l-3cr**
Prerequisites: FSMR 112, 350
An examination and evaluation of the quality of ready-to-wear apparel through construction, style, fit, marketability, and price

FSMR 433 Study Tour **var-1-6cr**
Prerequisite: Upper-level standing
Opportunity is provided to visit business establishments and cultural centers concerned with household equipment, furnishings, textiles, clothing, and housing in America as well as abroad. Museums, factories, designers' showrooms, distribution centers, stores, cultural events, and seminars are included. Course may be repeated for a total of 6cr. (Cross-listed as CNSV/INDS 433.)

FSMR 434 Quality Control in Textiles **2c-2l-3cr**
Prerequisite: FSMR 314
Physical properties explored through microscopic examination and use of textile testing equipment for fabric analysis.

FSMR 453 Flat Pattern Design **1c-3l-3cr**
Prerequisite: FSMR 112 or 212
Garment design achieved by use of flat pattern techniques. An understanding is developed of the interrelationship of garment design, figure analysis, fabric, fit, and construction processes. Offered even years, Spring semester.

FSMR 456 Historic Costume **3c-0l-3cr**
Chronological study of historic costume from ancient times to the present day with emphasis on the effect of aesthetic, economic, geographic, political, religious, and social factors upon the design of clothing worn.

FSMR 480 Seminar in Fashion Merchandising **3c-0l-3cr**
Prerequisite: Senior standing
Knowledge gained in major and additional requirement courses is applied to individual career goals. Students have the opportunity to pursue related areas not directly covered in previous coursework, with emphasis upon independent research, analytical thinking, and communication skills.

FSMR 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

FSMR 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Particular consumer considerations are independently investigated in the area of housing, home equipment, interior design, clothing, and textiles, or in the management of resources. Course may be repeated for a total of 3cr. Students meet with a faculty member at least 5 hours per credit.

GEOG: Geography
Department of Geography and Regional Planning
College of Humanities and Social Sciences

GEOG 101 Introduction to Geography: Human Environment **3c-0l-3cr**
Throughout history, human life and society have been shaped by the physical environment. Today, human activity threatens that environment. The relationship between humans and environment is examined in the context of the surface processes of weather, climate, plate tectonics, population distribution, and soil formation. Topics include agriculture, acid rain, global warming, deforestation, desertification, erosion, volcanism, and pollution.

GEOG 102 Geography of United States and Canada **3c-0l-3cr**
The cultural landscape of North America is studied. The relationship between man and environment is examined and spatial patterns of environment, economy, society, and politics are considered.

GEOG 104 Geography of the Non-Western World **3c-0l-3cr**
Relates theories of the discipline of geography to problems in the developing world. Emphasizes geographic components of dependency theory; indigenous-versus-industrial strategies of resource management; world systems theory; spatial legacies of colonialism; and development economics, theories of migration, and urban structure to explore causes, characteristics, and consequences of underdevelopment.

GEOG 213 Cartography I **3c-0l-3cr**
Introduces principles of thematic map construction. Emphasizes techniques of choropleth mapping and the production of scientific graphs and charts. (Also offered as RGPL 213; may not be taken for duplicate credit)

GEOG 230 Cultural Geography **3c-0l-3cr**
An introduction to cultural geography, including population, settlement, historical, urban, and political geography, human relationships with the natural environment, and the literature and methods of cultural geography.

GEOG 231 Economic Geography **3c-0l-3cr**
An introduction to geographic concepts, methods, and skills related to spatial patterns of production, consumption, and exchange over the earth's surface.

GEOG 251 Geography of Pennsylvania **3c-0l-3cr**
Regions of Pennsylvania are examined in detail to identify man-environment relationships. Soils, topography, climate, vegetation, population, and economic patterns are studied.

GEOG 252 Geography of Latin America **3c-0l-3cr**
Impact of rapid population growth and economic development on the environment and spatial organization of Latin America are considered. The resource base and cultural heritage of the region are studied.

GEOG 253 Geography of Europe **3c-0l-3cr**
Investigates relationships underlying land use, dominant international problems, boundary disputes, and regional complexes of the European continent.

GEOG 254 Geography of Russia and the Soviet Sphere **3c-0l-3cr**
Examines the Russian Republic and the former Soviet empire including the new nations emerging from the U.S.S.R. and former satellite nations. Settlement patterns, economics, cultures, and physical environments are studied. Contemporary topical emphasis is on efforts at transformation from communist to market economics and the geopolitical status of the new nations.

GEOG 255 Geography of Africa **3c-0l-3cr**
Systematic survey of the physical, economic, political-historical, and cultural geography of the continent is followed by regional studies of countries and peoples in Africa, south of the Sahara.

GEOG 256 Geography of East Asia **3c-0l-3cr**
Studies China, Japan, Korea, Outer Mongolia, Taiwan. Geographic background for development and wise use and restoration of natural resources are dealt with.

GEOG 257 Geography of South and Southeast Asia **3c-0l-3cr**
India, Pakistan, Bangladesh, Sri Lanka, Burma, Thailand, Laos, Cambodia, Vietnam, Malaysia, and Indonesia are studied with special attention to regional similarities and differences, particularly as they pertain to human adjustment.

GEOG 261 Geography of Wine **3c-0l-3cr**
The geography of the grape, its production, products, social significance, and consequences of the global wine trade are explored. Students develop an appreciation for the environmental constraints and characteristics of wines and wine regions. Field trips to visit wineries are an essential element of the course. Verifiable proof of 21 years of age required for voluntary wine tasting activities.

GEOG 281 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students. (May also be offered as RGPL 281; may not be taken as duplicate credit under same title)

GEOG 313 Cartography II **3c-0l-3cr**
Prerequisite: GEOG 213
Gives an understanding of the compilation and use of maps and quantitative data. Develops skills essential to the construction of various types of maps. (Also offered as RGPL 313; may not be taken for duplicate credit)

GEOG 314 Map and Photograph Interpretation **3c-0l-3cr**
Maps and air photographs, along with remote sensing materials, permit inventory, and analysis of geologic, land use, urban development, and other landscape phenomena. The understanding of these materials and associated tools for their use is presented. (Also offered as RGPL 314; may not be taken for duplicate credit)

GEOG 316 Introduction to Geographic Information Systems **3c-0l-3cr**
Prerequisite: GEOG 213, or equivalent, or instructor permission
Automated methods for creating, maintaining, and analyzing spatial data are presented. Topics include (1) specialized GIS hardware and software, (2) vector vs. raster vs. object-oriented spatial data structures, (3) creation and manipulation of geographic data files, (4) database design and management concepts, (5) spatial analysis, and 6) cartographic design. (Also offered as RGPL 316; may not be taken for duplicate credit)

GEOG 331 Population Geography **3c-0l-3cr**
Spatial variations in numbers, characteristics, and dynamics of human population, models, and theoretical constructs relevant to demographic structures and processes are studied, as well as major world and regional problems.

GEOG 332 Urban Geography **3c-0l-3cr**
Basic concepts of urban geography including site, situation, function, urban land use, urban structure, and urban hierarchy are introduced. Relationships between urban geography and urban planning are explored. (Also offered as RGPL 332; may not be taken for duplicate credit)

GEOG 333 Trade and Transportation **3c-0l-3cr**
Deals with the spatial aspects of transportation systems and their use. Circulation, accessibility, time and distance concepts, and trade patterns are discussed. (Also offered as RGPL 333; may not be taken for duplicate credit)

GEOG 334 Political Geography **3c-0l-3cr**
Geographic factors and conditions are analyzed as they relate to the character and function of states. Political institutions are evaluated in light of geographic conditions.

GEOG 335 Geography of Energy **3c-0l-3cr**
Covers patterns and problems of energy production and consumption in human societies. Descriptions of what, where, and how much are combined with issues such as technological change, conservation, allocation, environment impacts, and economic development. Specific topics include global history and trends of energy development, pricing systems, types of energy, locations of production areas, and the energy status of the United States.

GEOG 336 Social Geography **3c-0l-3cr**
Focuses on Spatial dimensions of the American society. The distribution of various social groups and their impact on the landscape are considered.

GEOG 337 Historical Geography **3c-0l-3cr**
Studies of past geographies, geographical change through time, and historical perspectives on the cultural landscape are included. Historical geography of the United States is emphasized.

GEOG 341 Climatology **3c-0l-3cr**
Examines the elements of weather and climate on Earth. The location and causes of global climatic regions are examined in relation to moving pressure and wind systems. Also considers the climatic history of the planet and recent human modifications of the atmospheric environment.

GEOG 342 Physiography **3c-0l-3cr**
Focuses on landform types and their spatial distribution. Emphasizes the tectonic forces that build landforms and the weathering and erosional processes that erode and shape surface features. The relationship between human activities and landforms is also considered.

GEOG 343 Geography of Fresh Water Resources **3c-0l-3cr**
Learn about surface and groundwater as a resource with unique properties. Fresh water is defined physically by storage in the hydrologic cycle and the values assigned by different cultures. Problems featured relate to consumptive and withdrawal water uses, the problems of water supply and scarcity, water law and its inconsistencies, flooding and floodplain management, sources of contamination and pollution, wetlands, and case studies of selected river basins.

GEOG 345 Biogeography for Environmental Managers **3c-0l-3cr**
Prerequisite: One of the following: GEOG 341, 342, BIOL 103, 112, 115
Examines the distribution of plants and animals across the earth's surface, as influenced by natural and human processes. Emphasizes landscape and regional habitat dynamics as they relate to environmental planning and management. Field trips supplement lectures and readings. (Also offered as RGPL 345; may not be taken for duplicate credit)

GEOG 352 Planning Methods **3c-0l-3cr**
Prerequisite: RGPL 350 or instructor permission
Research, analytical design, and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans. (Also offered as RGPL 352; may not be taken for duplicate credit)

GEOG 371 Aerospace Workshop **3c-0l-3cr**
Develops an appreciation and provides information related to aerospace activities and contributions; offers background for teaching aerospace courses; discusses aviation/space careers; and presents the basic principles of flying (usually including some flight instruction). Taught Summer only.

GEOG 411 History of Geography **3c-0l-3cr**
Prerequisites: GEOG 213, 230, 231, and 341or 342
Deals with history of the discipline, great ideas, leading problems, and unresolved issues.

GEOG 412 Research Seminar **3c-0l-3cr**
Prerequisite: GEOG 411
This senior seminar and workshop is a capstone course that focuses on recent research in the major field. Students carry out a research project on a topic of local or regional importance. (Also offered as RGPL 412, may not be taken for duplicate credit)

GEOG 415 Remote Sensing **3c-0l-3cr**
Deals with air photographs, satellite imagery, thermal sensing, and radar imagery and their application to deriving information about the earth's physical and cultural landscapes. (Also offered as RGPL 415; may not be taken for duplicate credit)

GEOG 417 Technical Issues in GIS **3c-0l-3cr**
Prerequisite: GEOG 316
A project-based class in which students learn the skills to develop and maintain a Geographic Information System. Through cooperative learning students design and implement functional systems. Methods for designing GIS systems to user specification, data collection, data input, project management, and system documentation are covered. (Also offered as RGPL 417; may not be taken for duplicate credit)

GEOG 431 Geography of American Indians **3c-0l-3cr**
Focuses on the historical/cultural geography of Native Americans. Population, resources, land use, development, settlement patterns, and other selected topics are covered.

GEOG 432 Geography of Crime **3c-0l-3cr**
The geographical context of crime is examined from historical and contemporary viewpoints. Relevant concepts and analytical approaches are introduced.

GEOG 440 Conservation: Environmental Analysis **3c-0l-3cr**
Problems of exploitation and utilization of regional resources such as soils, minerals, forests, and wildlife are considered in relation to population growth and regional planning and development.

GEOG 464 Land Use Policy **3c-0l-3cr**
Introduces and provides an overview of land use issues at the regional, state, and federal levels. Emphasizes the evolution of contemporary policy strategies, constitutional issues, and regional controversies involved in the regulation of metropolitan growth, central city decline, and management of public lands. (Also offered as RGPL 464; may not be taken for duplicate credit)

GEOG 481 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students. (May also be offered as RGPL 481; may not be taken for duplicate credit under same title)

GEOG 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

GEOG 484 Field Studies in Geography and Social Studies **var 1-3cr**
Prerequisite: Instructor permission
Immerses the student in a regional environment. Helps the student to see critically and to interpret a cultural landscape. The experience is predominantly off campus. Using a combination of structured field exercises, culturally specific readings, primary and secondary data, and standard geographic field techniques, the course strives to develop for the student a deeper affective and cognitive understanding of a cultural region. May be repeated under a different study area title.

GEOG 493 Internship **var-3-12cr**
Professional learning experience with emphasis on application of academic background. Open to majors and minors in geography with a total of 57cr and 15cr in the major. See internship supervisor for additional information.

GEOG 499 Independent Study **var-3-6cr**
Independent research and study under faculty direction. Interested students should approach department chairperson for information.

GEOS: Geoscience
Department of Geoscience
College of Natural Sciences and Mathematics

GEOS 101 The Dynamic Earth **3c-0l-3cr**
Prerequisite: No Geoscience majors/minors
Examines the constant changes that affect the rocky surface of our planet. From volcanic eruptions and catastrophic earthquakes to the slow drift of

continents and passage of ice ages, earth processes have shaped the history of life and altered the development of human civilization.

GEOS 102 The Dynamic Earth Lab **0c-2l-1cr**
Prerequisite: No Geoscience majors/minors
Corequisite: GEOS 101
Introduces the techniques geologists use to study the earth and reconstruct its past. Labs cover minerals, rocks, map interpretation, fossil identification. Includes field trips during the scheduled lab period.

GEOS 103 Oceans and Atmospheres **3c-0l-3cr**
Prerequisite: No Geoscience majors/minors
The earth's oceans and atmosphere play a crucial role in determining the pace and extent of changes occurring to our global environment. Examines the composition and character of these components and their interaction with other major components of the earth system.

GEOS 104 Oceans and Atmospheres Lab **0c-2l-1cr**
Prerequisite: No Geoscience majors/minors
Corequisite: GEOS 103
Introduces the techniques oceanographers and meteorologists use to study the earth's oceans and atmospheres and reconstruct their evolution. Labs cover seawater processes, oceanic circulation, marine life, atmospheric structure, and weather.

GEOS 105 Exploring the Universe **3c-0l-3cr**
Prerequisite: No Geoscience majors/minors
Examines the history of time, the reasons for the seasons, the characteristics of the planets, moons, stars, and galaxies, and the history and future of space exploration.

GEOS 106 Exploring the Universe Lab **0c-2l-1cr**
Prerequisite: No Geoscience majors/minors
Corequisite: GEOS 105
Introduces the techniques astronomers use to study the celestial sphere. Constellations, seasons, motions of Sun, Moon, planets, and stars, characteristics of stars and galaxies. Includes two observations which are held at night.

GEOS 111 Earth Science for Educators I **3c-0l-3cr**
Prerequisite: Natural Science/Science Education majors only
An in-depth treatment of introductory oceanography and geology designed specifically for Secondary Science Education majors. Focuses on fundamentals of the earth's physical processes and history and on the ocean's dynamics, chemistry, and tectonics.

GEOS 112 Earth Science for Educators I Lab **0c-3l-1cr**
Prerequisite: Natural Science/Science Education majors only
Corequisite: GEOS 111
Lab experiences in various aspects of oceanography and geology, designed to provide concepts and skills for future teaching to Secondary Education majors. Includes field trip(s).

GEOS 113 Earth Science for Educators II **3c-0l-3cr**
Prerequisite: Natural Science/Science Education majors only
An in-depth treatment of introductory meteorology and astronomy designed specifically for Secondary Science Education majors. Focuses on atmospheric processes and climate change and on the earth's place in the solar system and universe.

GEOS 114 Earth Science for Educators II Lab **0c-3l-1cr**
Prerequisite: Natural Science/Science Education majors only
Corequisite: GEOS 113
Use of the weather station and planetarium highlights a series of exercises designed to aid Secondary Science Education majors in developing concepts and laboratory skills for future teaching.

GEOS 121 Physical Geology **3c-0l-3cr**
Corequisite: GEOS 122
A semi-quantitative introduction to the earth sciences, including the physical properties of the earth's interior and crust, plate tectonics, surface processes, and the complex geologic interactions that shape and modify our planet. Designed to prepare students for upper-level coursework in geology, physical geography, and anthropology.

GEOS 122 Physical Geology Laboratory **0c-3l-1cr**
Corequisite: GEOS 121
Selected problems in rock and mineral identification, topographic and geologic mapping techniques, geologic landforms, and deformation structures. Designed to prepare students for upper-level coursework in geology, physical geography, and anthropology. Includes field trips.

GEOS 123 Applied Mathematics in the Geosciences **1c-0l-1cr**
Corequisite: Concurrent enrollment in MATH 121 or 123, or instructor permission
For Geoscience majors enrolled in either MATH 121 or 123. Applications of the calculus to problems in geochemistry and geophysics. Topics involve Geoscience applications of limits, differentiation, Taylor series, exponential functions, integration, and advanced topics.

GEOS 131 Historical Geology **3c-0l-3cr**
Prerequisites: GEOS 121 and 122
Corequisite: GEOS 132
An introduction to the history of Earth, including the fossil record and the history of biologic evolution. Topics also include the growth and tectonic interactions of oceans and continents and the physical evolution of the earth's atmosphere, lithosphere, and hydrosphere. Designed to prepare majors and minors for upper-level geology classes.

GEOS 132 Historical Geology Laboratory **0c-3l-1cr**
Prerequisites: GEOS 121-122
Corequisite: GEOS 131
Selected problems in stratigraphic analysis, paleontology, and structural geology; designed to prepare students for upper-level geology classes. Includes field trips.

GEOS 141 Introduction to Ocean Science **3c-0l-3cr**
Introduces physical, chemical, biological, and geological processes in oceanography and the interactions among them. Impact of exploitation of the oceans, coastal areas, marine, physical, and living resources on the environment and on humankind. Includes field trips which may involve a fee and may occur on weekends.

GEOS 150 Geology of National Parks **3c-0l-3cr**
Studies geological processes and earth history as documented by the classical geological features of U.S. and Canadian national parks. Includes Badlands, Glacier, Grand Canyon, Great Smokies, Gros Morne, Mammoth Cave, Yellowstone, Yosemite, and others. Not open to Geoscience majors or minors.

GEOS 151 The Age of Dinosaurs **3c-0l-3cr**
A thorough introduction to dinosaurs and the world they inhabited. Topics include the most current theories regarding dinosaurian biology (behavior, metabolism, evolution), ecology (greenhouse climate, associated plants and animals), and extinction (asteroid impact, volcanism, climate change). Not open to Geoscience majors and minors.

GEOS 220 Mineralogy **2c-3l-3cr**
Prerequisite: GEOS 121
Prerequisite or Corequisite: CHEM 111 or 113, or instructor permission
An introduction to crystallography, crystal chemistry, optical properties, and mineral associations and phase equilibria. Emphasizes minerals pertinent to geology, Earth resources, and technology. Laboratory topics emphasize mineral identification in hand specimen, use of the petrographic microscope, and x-ray diffraction techniques. Includes field trips, which may occur on weekends. (Offered as GEOS 321 prior to 2001-02)

GEOS 221 Physical Resources of the Earth **3c-0l-3cr**
An introduction to mineral, energy, and water resources of the earth; genesis of ore depositions; exploration, exploitation, and utilization of resources; impact of exploitation of resources on the environment and on humankind. Includes field trips which may occur on weekends.

GEOS 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

GEOS 310 Environmental Geology **2c-3l-3cr**
Prerequisite: 8cr in geology or permission
The application of geologic information to the accommodation and reduction of natural hazards, to land-use planning, and to the utilization of earth materials. Includes field trips which occur on weekends.

GEOS 320 Igneous and Metamorphic Petrology **2c-3l-3cr**
Prerequisites: GEOS 131 and 321, or instructor permission
An introduction to the origin and evolution of igneous and metamorphic rocks based upon a plate tectonic framework. Topics include the evolution of Earth, the Moon, Mars, and other terrestrial planetary objects. Planetary evolution is examined through analysis of phase equilibria and the physics of magma transport. Laboratory topics emphasize quantitative methods in petrology and the identification and interpretation of rocks and rock textures in hand specimen and thin section. Includes field trips, which may occur on weekends. (Offered as GEOS 322 prior to 2001-02)

GEOS 325 Structural Geology **2c-3l-3cr**
Prerequisites: GEOS 131 and 132-133 or instructor permission
The study of primary structures, contacts, rock mechanics, joints, faults, folds, foliation, and lineation. Includes work with geologic maps and structure sections. Brunton compass, orthographic and stereographic projections. Includes field trips which may occur on weekends.

GEOS 326 Field Geology **2c-3l-3cr**
Prerequisite: GEOS 325
Principles and techniques of field geology with emphasis on developing field skills using Brunton compass, aerial photographs, topographic maps, altimeter, Jacob staff, and rock color charts. Field projects involve techniques of field note-taking, measuring and describing stratigraphic sections, geologic field mapping and analysis, construction of geologic maps and structure sections, and report writing. Includes field trips which may occur on weekends.

GEOS 327 Geomorphology **2c-3l-3cr**
Prerequisites: GEOS 121, 131
A study of the origin of the earth's land forms, including relationship of geologic structure to landform types and role of geomorphic processes in landscape development.

GEOS 330 Paleontology **2c-3l-3cr**
Prerequisite: GEOS 131 or instructor permission
The study of the morphology, evolution, geologic significance, and paleoecology of fossil organisms. Includes field trips which may occur on weekends.

GEOS 331 Hydrogeology **2c-3l-3cr**
Prerequisites: MATH 121-122, GEOS 121-122/123, or permission
An overview of groundwater geology, including flow equations, graphical solutions to flow problems, and computer modeling of flow systems, as well as the geotechnical and social implications of groundwater utilization. Includes field trips which occur on weekends.

GEOS 332 Geochemistry **2c-3l-3cr**
Prerequisites: CHEM 111-112, GEOS 121-122/123, or permission
An introduction to low-temperature chemistry of the earth's surface and near-surface; includes discussions of chemical activity, solution chemistry, organic geochemistry, trace elements, isotopes, and the chemistry of natural waters.

GEOS 336 Geology of the Northern Rockies **var-3cr**
Prerequisite: Instructor permission required; at least 14cr of GEOS courses recommended
A field study of the major geologic features and relationships involved in the development of the northern Rocky Mountains. National Park and Monument areas of South Dakota, Wyoming, and Montana are included among the areas investigated. (Three weeks, taught in the Summer only)

GEOS 337 Geology of Newfoundland **var-3cr**
Prerequisite: Instructor permission required; at least 14cr of GEOS courses recommended
A field course designed to utilize the exceptional and diverse geologic features of Newfoundland for instruction of departmental majors and minors in tectonic analysis utilizing sedimentologic, stratigraphic, and paleontologic observations. (Three weeks, taught in the Summer only)

GEOS 338 Geology of the American Southwest **var-3cr**
Prerequisite: Instructor permission required; at least 14cr of GEOS courses recommended
A field study of the major geologic features and relationships exposed in the American Southwest, including the Colorado Plateau, the Rio Grande Rift, Death Valley, and parts of the Southern Rocky Mountains. (Three weeks, taught in Summer only)

GEOS 341 Solar System **2c-3l-3cr**
Prerequisites: MATH 121 and PHYS 111
Fundamentals of astronomy, with emphasis on observational methods, mechanics, and origin of the solar system and spatial relationship of the solar system to the other members of the universe.

GEOS 342 Stellar Astronomy **2c-3l-3cr**
Prerequisites: MATH 121 and PHYS 111
Fundamentals of astronomy, with emphasis on sun, stars, galaxies, the sidereal universe, and use of spectroscopy for gathering astronomical data.

GEOS 350 Operation of the Planetarium **var-1cr**
Prerequisites: GEOS 110, 341, 342, or instructor permission
Acquaints the student with methods of operation and repair of a Spitz A-3-P planetarium. Content includes topics suitable for lectures to various age groups. Students write and present a demonstration program. Meets once a week with occasional evening observations.

GEOS 361 Physical Oceanography **2c-3l-3cr**
Prerequisites: PHYS 111 and MATH 121 or instructor permission
An introduction to physical, chemical, geological, and biological nature of ocean: topography, submarine geology, and bottom deposits. Includes field trip(s) which may occur on weekend(s).

GEOS 362 Plate Tectonics **2c-3l-3cr**
Prerequisites: PHYS 111-112 and a minimum of 20cr of geology
An introduction to formal theory of plate tectonics. Topics include magnetic anomalies, first motion studies, thermal structures of the plates, kinematics, crustal generation, sea floor spreading, collision, and subduction deformation.

GEOS 371 Meteorology I **2c-3l-3cr**
Prerequisite: One year of physical science or physics
An introduction to meteorological sciences; composition and structure of the atmosphere; radiation principles; elementary thermodynamics and heat balance.

GEOS 380 Research Methods in the Geosciences **2c-0l-2cr**
Prerequisites: 75cr or instructor permission
For students enrolled in all majors within the Geoscience Department. Learn the methods of research in the geosciences by working on a project of their choosing. Define a problem, propose several hypotheses, collect data, and perform a quantitative analysis to test their hypotheses and propose a solution. Final results are submitted in professional manuscript form. As preparation, students examine various geoscience problems and data sets through the semester. Cannot be taken subsequent to GEOS 480.

GEOS 411 Sedimentary Petrology **2c-3l-3cr**
Prerequisite: GEOS 321 or instructor permission

The study of sediments and sedimentary rocks with emphasis on interpreting ancient environments of deposition utilizing sieve analysis, hand lens, and petrographic microscope. Includes field trips which may occur on weekends.

GEOS 412 Stratigraphy **2c-3l-3cr**
Prerequisite: GEOS 411 or instructor permission
Principles and processes involved in development and description of stratified rock sequences, principles and problems of correlation, and selected stratigraphic problems. Includes field trips which may occur on weekends.

GEOS 440 Subsurface Geology **2c-3l-3cr**
Prerequisite: Minimum 20cr of geology
An introduction to the geology of petroleum, its origin, migration, entrapment, and production. Lab is designed to provide practical experience in subsurface mapping techniques and the use and evaluation of geophysical logging devices. Includes field trips which may occur on weekends.

GEOS 441 Carbonate Geology–Florida **var-3cr**
Prerequisite: 17cr geology courses or written instructor permission
Two to three weeks of field study in Florida Keys. Conducted from base camp in Florida Keys and consists of both land and water work as the different carbonate environments in the Keys, Florida Bay, and the Atlantic reef tract are studied.

GEOS 480 Geoscience Seminar **var-1cr**
Prerequisites: GEOS 380, senior standing
For seniors majoring in some aspect of geoscience. The seminar (1) provides an opportunity to prepare, formally present, and defend a scientific paper based either on his/her own research or on a topic chosen with the approval of instructor and (2) provides opportunity to discuss topics presented by other students, faculty, or guests.

GEOS 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
The department's intention is to use this course to schedule extended field trips and for teaching special courses which utilizes the specialties of the Geoscience faculty.

GEOS 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Independent study provides the student with an opportunity to use library, laboratory, or field research in an area which is of interest under the supervision of a designated faculty member. Approval is based on academic appropriateness and availability of resources.

GEOS 493 Geoscience Internship **var-1-12cr**
Summer or semester work experience with cooperating firms or agencies. May be scheduled only after consultation with advisor and chairperson. Requirements include up to three on-site consultations, depending on credits and location's site; completion of up to three oral progress reports; and submission of a detailed work diary. Restricted to junior and senior department majors; only 3cr may be applied toward major.

GERN: Gerontology
Department of Nursing and Allied Health Professions
College of Health and Human Services

GERN 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

GERN 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

GERN 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

GERN 493 Internship **3cr**
Prerequisites: Senior standing, all required courses
Supervised experience in public or private agency that serves aging clients.

GRMN: German
Department of French and German
College of Humanities and Social Sciences

GRMN 101 Elementary German **var 6cr**
Complete levels I and II sequence in one semester (6cr). Emphasizes the mastery of spoken language as well as basic language skills. Classes meet M,W,F for 60 minutes and T,R for 90 minutes.

GRMN 151 German I **3c-0l-3cr**
For beginners, the objectives include grammar, pronunciation, reading, speaking, and writing.

GRMN 152 German II **3c-0l-3cr**
For students who have had German I or its equivalent, the objectives are to enhance and develop the four skills of listening, speaking, reading, and writing.

GRMN 201 Intermediate German **var 6cr**
Complete levels III and IV sequence in one semester (6cr). Students develop language skills with emphasis on oral competency. Classes meet M,W,F for 60 minutes and T,R for 90 minutes.

GRMN 221 Conversation III **2c-0l-2cr**
Two-hours-weekly conversation practice in small groups emphasizing the use of greetings, idiomatic expressions, and communication skills to improve vocabulary and pronunciation.

GRMN 222 Conversation IV **2c-0l-2cr**
Two hours of weekly conversation designed as a continuation of the practice in small groups, focusing on speaking and listening skills and on participation in discussions and dialogues. May enroll without having taken GRMN 221.

GRMN 251 German III **3c-0l-3cr**
Continued training in basic skills, with the possible addition of the study of specific topics; consult the department for topics of interest.

GRMN 252 German IV **3c-0l-3cr**
A continuation of German III with some emphasis on literary works.

GRMN 253 Intermediate Composition and Conversation **3c-0l-3cr**
Can be taken instead of or in addition to 252. Designed for majors or serious students. Taught Spring semester only.

GRMN 254 Business German **3c-0l-3cr**
Prerequisite: GRMN 251 or equivalent
A one-semester course which can be taken instead of, or in addition to, GRMN 252 by students interested in business or as part of the Liberal Studies requirement (equivalent to German IV). Business practices and specialized business vocabulary, letter writing, and problems of translation are emphasized.

GRMN 256 Scientific German **3c-0l-3cr**
Substitutes for GRMN 252, course is offered in the second semester. Primarily for science majors; may be taken as an elective by German majors.

GRMN 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

GRMN 321-322 Advanced Conversation I and II **each 2c-0l-1cr**
Increases speaking ability. The variety of content permits repetitions of these relatively informal courses.

GRMN 351 Advanced German Language I **3c-0l-3cr**
Aims to review and expand the student's grammatical skills, to apply these skills to extensive cultural and short literary readings, and to produce frequent themes on these readings.

GRMN 352 Advanced German Language II **3c-0l-3cr**
Continues to expand the student's grammatical skills and to apply them by the writing of longer themes based on cultural and literary readings.

GRMN 361 Development of German Culture and Literature I **3c-0l-3cr**
Provides a background in German literature, music, art, architecture, and history. Surveys the period from the migrations of the Germanic tribes to the rise of Prussia as a European power.

GRMN 362 Development of German Culture and Literature II **3c-0l-3cr**
A continuation of GRMN 361. Covers the period from the French revolution and its effects on Germany up to the present, with an emphasis on German literature, history, and music.

GRMN 363 Introduction to German Literature I **3c-0l-3cr**
Selected readings in German poetry to acquaint the student with formal and thematic aspects of German verse from the Middle Ages to the present.

GRMN 364 Introduction to German Literature II **3c-0l-3cr**
Selected readings in German fiction and drama to acquaint the student with representative works and techniques of interpretation.

GRMN 367 Nineteenth-Century German Literature **3c-0l-3cr**
A survey of the major works of German poetry and prose with an emphasis on the literary movements of Romanticism, Realism, and Naturalism.

GRMN 368 Twentieth-Century German Literature **3c-0l-3cr**
A study of representative works of German poetry and prose from Expressionism through World War II

GRMN 369 Contemporary German Literature **3c-0l-3cr**
A study of the literary achievement of postwar Germany up to the present.

GRMN 370 The Age of Goethe I **3c-0l-3cr**
A study of representative works from the Enlightenment and Storm and Stress periods.

GRMN 371 The Age of Goethe II **3c-0l-3cr**
A study of selected works of German Classicism with an emphasis on the prose and poetry of the first decades of the nineteenth century.

GRMN 381 German Drama in English Translation **3c-0l-3cr**
Representative works of major dramatists in English translation. Primarily intended for students of English literature and comparative literature and not considered as credit toward a German major.

GRMN 390 Teaching Elementary School Content in French and German **3c-0l-3cr**
Prerequisite: Instructor permission
Explores issues relevant to the teaching and learning of French and German in the elementary school (grades K-8). Current theories of child second-language acquisition are treated. These theoretical foundations form the basis for the development of objectives and activities that integrate the teaching of foreign language and culture with elementary school subject content. Provides practical experience in planning and implementing lessons, assessing student learning, and selecting materials appropriate to the needs and interests of young learners.

GRMN 410 History of the German Language **3c-0l-3cr**
History and development of German language, with special emphasis on relationships with English. Analysis of annals in Gothic, Old High German, and Middle High German using methods of historical and contemporary linguistics.

GRMN 481 Special Topic **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students. Designed to meet the special needs of a student group.

GRMN 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An opportunity to engage in an in-depth analysis of some topic dealing with the German language and culture through consultation with a faculty member.

GRMN 493 Internship in Germany **var-3-12cr**
Prerequisites: 12cr in 300- or 400-level courses and a minimum of one semester study in Germany
A supervised field experience in Germany with approved public agencies and institutions or private firms, no longer than one semester and no less than one month. Positions are matched as closely as possible with the intern's personal interests and degree of proficiency in the German language. Academic work at the Gesamthochschule in Duisburg must precede the internship. Open to students in other disciplines, such as Political Science, International Relations, Business, etc., with advisor approval.

HIST: History
Department of History
College of Humanities and Social Sciences

HIST 195 The Modern Era **3c-0l-3cr**
Interprets the development of two centers of civilization, Europe and America, within a global context and extends from at least the Age of Enlightenment through the present. (History majors should substitute HIST 202 for 195 to meet the Liberal Studies humanities requirements.)

HIST 200 Introduction to History **3c-0l-3cr**
For History majors and concentrates. Topics include philosophy of history, important schools of history and historians, and methods of historical research. Student is encouraged to become a better historian and to identify with historical profession. For History majors only.

HIST 201 Western Civilization Before 1600 **3c-0l-3cr**
A survey course presenting in various forms the origin and development of major political, social, religious, and intellectual institutions in Western Civilization to approximately 1600. For History majors or by instructor's permission.

HIST 202 Western Civilization Since 1600 **3c-0l-3cr**
Development of Western civilization from the expansion of Europe to the present, including political, diplomatic, economic, social, and cultural areas. Introduces issues and interpretations encountered in upper-level courses. For History majors or by instructor's permission.

HIST 203 United States History for Historians **3c-0l-3cr**
Prerequisite: History majors or instructor permission
Introduces aspiring historians to United States history since 1763. Emphasizes the issues, methods, and problems that currently concern professional historians.

HIST 204 United States History to 1877 **3c-01-3cr**
Prerequisite: History, History Pre-Law, or Social Studies Education majors
An introduction to United States history from the Colonial period through Reconstruction, covering such main currents as the founding of American society, the American Revolution, the making of the Constitution, the market revolution, westward expansion, slavery, the Civil War, and Reconstruction.

HIST 205 United States History Since 1877 **3c-01-3cr**
Prerequisite: History, History Pre-Law, or Social Studies Education majors
An introduction to United States history 1877 to the present covering such main currents as industrialization, Progressivism, World War I, the Great Depression and New Deal, World War II and the Cold War, the 1960s, the Vietnam War, and post-Vietnam political, social, and economic developments.

HIST 206 History of East Asia **3c-01-3cr**
History of China and Japan from ancient times. Buddhism, medieval Japan, Chinese communism, industrialization. Some consideration of peripheral Asia from 1500. Open to History and non-History majors. (Offered as HIST 335 prior to 2002-03)

HIST 208 Survey of Latin American History **3c-01-3cr**
A survey course presenting in various forms the origin and development of major political, social, cultural, religious, and intellectual institutions in Latin America from pre-Columbian times to the present. Introduces issues and interpretations encountered in upper level courses. Open to History and non-History majors.

HIST 210 Ancient Civilization: The Middle East and the Eastern Mediterranean **3c-01-3cr**
Not open to History and Secondary Social Studies Education majors. An examination of the development and the spread of ancient civilization in ancient Middle East and the Eastern Mediterranean. Topics of study include the characteristics of civilization and the development of political, social, economic, and cultural institutions in the river valley centers and the diffusion to the fringe areas.

HIST 212 Ancient and Medieval Europe **3c-01-3cr**
Not open to History and Secondary Social Studies Education majors. An examination of the development of civilization in Europe during the ancient and medieval periods. Focuses on the Ancient Greek and Roman civilizations and the medieval European civilization. The characteristics and institutions of civilization are stressed as well as the political history.

HIST 214 Themes in American History **3c-01-3cr**
Prerequisite: HIST 195
Open only to non-History majors. Designed to give students an appreciation of the basic themes and issues in the making of American society. Examines themes such as the fruition of democracy, the American dream, slavery and freedom, the tensions between liberty and order, and the role of the United States in a world setting.

HIST 251 United States Military History **3c-01-3cr**
Prerequisite: Not applicable toward the HIST major
A survey of the history and transformation of the American military from the Colonial period to the present time. American military history is analyzed within the context of the nation's political, social, economic, and cultural development. Central themes include war-making, civil-military relations, and military professionalism.

HIST 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

HIST 301 History of Ancient Greece **3c-01-3cr**
Analyzes major political, social, and economic developments in ancient Greek civilization from Bronze Age to death of Alexander.

HIST 302 History of Ancient Rome **3c-01-3cr**
Traces Roman history from early Republic down to fall of Empire. Roman political theory is particularly emphasized.

HIST 303 Medieval Europe I, 400-1000 **3c-01-3cr**
History of early Medieval Europe, from decline of Rome to beginnings of High Middle Ages; emphasis on political, social, economic, religious, and intellectual developments.

HIST 304 Medieval Europe II, 1000-1300 **3c-01-3cr**
History of late Medieval Europe, from High Middle Ages to Renaissance period; emphasis on political, social, economic, religious, and intellectual developments.

HIST 305 Renaissance and Reformation **3c-01-3cr**
History of Europe from c. 1250; rise of commercial city, kings, and pressures on Christian Church to 1600. Some consideration of technology and voyages.

HIST 306 Early Modern Europe **3c-01-3cr**
Greatness of France under Louis XIV; Sweden; Thirty Years' War. Emergence of modern society; French Revolution.

HIST 307 History of Europe: 1815-1914 **3c-01-3cr**
The study of Europe in nineteenth century, with emphasis on the emergence of major thought patterns, Romanticism, Nationalism, Socialism, and Positivism.

HIST 308 Twentieth-Century Europe **3c-01-3cr**
Political, economic, and diplomatic trends in Europe since 1900, with major emphasis on causes and results of war and search for security.

HIST 311 Rise and Fall of Hitler's Empire **3c-01-3cr**
An in-depth study of Hitler and the Nazi order; offers an analysis of nineteenth-century origins of Nazi ideology and intensively analyzes domestic and foreign totalitarian policy (1920-1945), including Holocaust, Resistance, and the postwar Nuremberg Trials.

HIST 320 History of England to 1688 **3c-01-3cr**
A survey of the growth of the English nation, with emphasis on political, social, and economic developments leading to seventeenth-century conflict between Crown and Parliament.

HIST 321 History of England, 1688 to Present **3c-01-3cr**
A survey of the growth of England as a democratic constitutional monarchy. Attention directed to industrial revolution and to imperial expansion and England's role in twenty-first-century world. Attention given to social and cultural history.

HIST 322 French Revolution and Napoleon **3c-01-3cr**
Brief sketch of Old Regime, concentration on Revolution and Empire, with emphasis on politics, social structure, diplomacy, and economics.

HIST 323 France, 1815 to the Present **3c-01-3cr**
Provides a survey of French history from the end of the Napoleonic era to the present. Pays special attention to the revolutionary tradition in politics, changes in the lives of workers and peasants, the French experience in the two world wars, and recent social and political trends.

HIST 324 History of Germany to 1848 **3c-01-3cr**
The study of the development of Germany politically and culturally from ancient times, emphasizing medieval and early modern periods to 1849.

HIST 325 History of Germany: 1849 to the Present **3c-01-3cr**
The study of the political and cultural development of modern Germany from the Revolution of 1848, including imperial, republican, and totalitarian phases, to post-World War II East and West Germany.

HIST 326 History of Russia 3c-01-3cr
General survey of Russian history, culture, and institutions. Special consideration given to study of historical forces formative of Revolution of 1917.

HIST 327 Soviet Union and Contemporary Russia 3c-01-3cr
Prerequisites: Sophomore standing, HIST 195 (nonmajors)
Analyzes the period from 1855 to the present, including the attempts at modernization by Imperial Russia, the creation of the Soviet Union and further modernization, and the collapse of the Soviet Union.

HIST 329 The History of the Byzantine Empire 3c-01-3cr
Prerequisites: Sophomore standing, HIST 195 (nonmajors)
An introduction to early Byzantine civilization and history, A.D 400-1300. Traces the transformation of the ancient world and the emergence of a distinctly medieval Byzantine civilization.

HIST 330 History of the Islamic Civilization 3c-01-3cr
An approach to learning about a non-Western culture: Muhammad, Arabs, and Muslims as creators of a great civilization from rise of Islam to 1800; emphasis on cultural institutions of Islam and their interrelationships within Middle East.

HIST 331 Modern Middle East 3c-01-3cr
A survey of changes that have taken place in Middle East and in Islam since eighteenth century and of contemporary problems in that region.

HIST 332 History of Early China 3c-01-3cr
China from the dawn of history to the Tang Dynasty. Focuses on the creation of the intellectual and political systems that have dominated China and East Asia down to the present. Looks in depth at the origins of Chinese philosophy and the imperial system.

HIST 334 History of Modern China 3c-01-3cr
The history of China from the late Ming to the present. The Late Imperial political economic and social systems and the problems they faced in the nineteenth century. Reforming China from Self-Strengthening to Mao. Revolutionary society and its discontents. The Reform era and China today.

HIST 337 History of Modern Japan 3c-01-3cr
The history of Japan from the beginning of the Tokugawa period to the present. Japan's early modern political, economic, and social systems, their transformation in the Meiji era, and the Japanese people's struggles and successes in the twentieth century

HIST 340 Colonial America 3c-01-3cr
A survey of original thirteen states from their inception as colonies within the British empire to 1763, the eve of Independence. Attention is given to their political development; economic position within the empire; relations with Indians; and evolution of social, educational, and religious life.

HIST 341 American Revolution 3c-01-3cr
An examination of Whig-Tory participants of American Revolution. Examines events from 1763 to 1783. Changing interpretations of the causes and effects of the revolution are discussed.

HIST 342 The Early Republic 3c-01-3cr
A survey of United States history from 1783 to 1850, with special attention on constitutional, political, economic, and social trends.

HIST 343 Civil War and Reconstruction 3c-01-3cr
The study of the failure of American democracy to cope with issues of mid-nineteenth century, followed by political, economic, military, and social developments during war and reconciliation of North and South.

HIST 344 Industrializing America 3c-01-3cr
Prerequisites: Sophomore standing; HIST 195 (nonmajors)
A study of the industrial revolution and its consequences in America through 1917. Topics include new technology and entrepreneurship, the development of middle and working class consciousness, immigration and ethnicity, gender, urban growth, the beginnings of consumer culture and commercialized leisure, intellectual developments, protest movements, and the Progressive Era's political reforms.

HIST 345 America in War and Depression, 1914-1945 3c-01-3cr
Prerequisites: Sophomore standing; HIST 195 (nonmajors)
A study of the social, economic, political, and cultural response to war and depression in America. Topics include the First World War, the 1920s, the Depression, the New Deal, and the Second World War.

HIST 346 Recent United States History 3c-01-3cr
Prerequisites: Sophomore standing; HIST 195 (nonmajors)
Examines the major political, economic, social, and cultural changes in America since 1945 with a focus on their causes, character, and significance; also explores the role of the United States in global relations.

HIST 350 History of Latin America: Colonial Period, 1450-1820 3c-01-3cr
A study of life of people, Indian cultures, conquest by Spaniards and Portuguese, government during Colonial Period, and Wars of Independence.

HIST 351 History of Latin America: National Period, 1820-Present 3c-01-3cr
A study of the history of nations which have emerged since independence; emphasis on economic, political, cultural, and social developments of these nations, as well as relationships of these nations to others in the hemisphere.

HIST 355 African History I: Antiquity to 1600 3c-01-3cr
Prerequisites: Sophomore standing, HIST 195 (nonmajors)
A survey of the sociocultural, political, and economic life of precolonial African societies. Focus is on ancient kingdoms and cultures, precolonial states, internal and Atlantic trade networks.

HIST 356 African History II: 1600 to Present 3c-01-3cr
Prerequisites: Sophomore standing, HIST 195 (nonmajors)
A survey of African sociocultural, political, and economic developments during the colonial and modern periods. Covers imperialism, the struggle for control for Africa, the two global wars and their repercussions for Africa, decolonization, and modern African states.

HIST 360 History of Pennsylvania 3c-01-3cr
Emphasizes the cultural, economic, political, and social development of our state in its various periods from colonial to today. Special attention given to diversity of Pennsylvania's people, their institutions and problems.

HIST 361 History of American Diplomacy, 1775-1900 3c-01-3cr
Traces foreign relations of the United States from Independence to emergence as a world power. Topics concentrate on themes of commercial relations, political isolation, expansion, and debate over imperialism.

HIST 362 History of American Diplomacy, 1900-present 3c-01-3cr
Treats primarily our twenty-first-century involvement in world affairs and domestic debate over that involvement. Special emphasis is on the role of interest groups and increasing power of Executive Department over foreign affairs.

HIST 363 Thought and Culture in Early America 3c-01-3cr
Selected topics in early American intellectual and cultural growth, with emphasis on Puritanism, Enlightenment, cultural nationalism, and Romantic movement

HIST 364 Thought and Culture in Modern America 3c-01-3cr
Selected treatment of historical development of modern American movements in social and political thought, religion, philosophy, fine arts, and literature.

HIST 365 History of Black America Since Emancipation 3c-01-3cr
Description and analysis of the role of blacks in the history of the United States since the Civil War; emphasis on key leaders, major organizations, leading movements, and crucial ideologies of blacks in modern America.

HIST 366 African-American Women 3c-01-3cr
Major economic, social, and political issues which have affected black women since their introduction into North America to the present.

HIST 367 Native American History 3c-01-3cr
An unfamiliar perspective on a familiar tale. Presents the "new Indian History"–North America from Native American materials and points of view. Identification, analysis, and synthesis of Indian realities and options over time are at the heart of this course.

HIST 369 Women in America 3c-01-3cr
A study of the activities of women from the colonial era to the modern era–evaluating cultural, societal, religious, economic, and political frameworks. Reviews women's involvement in movements for feminism, social reform, unionism, and the abolition of slavery.

HIST 370 Religion in America 3c-01-3cr
A history of religious belief and practice in the United States from the colonial period to the present, with an emphasis on the last one hundred years.

HIST 372 History of the Early American Working Class 3c-01-3cr
Description and analysis of the nature and significance of the working class of the United States in the eighteenth and nineteenth centuries. The work settings and communities of workers are examined as well as unions such as the National Labor Union and the Knights of Labor.

HIST 373 History of the Modern American Working Class 3c-01-3cr
Description and analysis of the nature and significance of the working class of the United States in the twenty-first century. Work settings and strikes are examined and analyzed as well as unions such as the United Mine Workers and the United Auto Workers and labor leaders including Samuel Gompers, John L. Lewis, and George Meany.

HIST 374 History of Organized Crime 3c-01-3cr
Studies the relationship between urban, entrepreneurial crime and the evolution of industrial America.

HIST 390 History of Women–World Cultures 3c-01-3cr
Explores religious, legal, political, economic, and mythic dimensions of women in society from ancient to modern times, including Western and non-Western experiences.

HIST 391 Film as History 3c-01-3cr
Particularly concerned with probing the relationship between cinema and society. History of film is explored and student is given some background in film interpretation and cinematography, the western, science fiction, police films, and great foreign and American detective films.

HIST 401 Topics in United States History 3c-01-3cr
Prerequisite: Junior/senior History, History Pre-Law, or Social Studies Education majors or by instructor permission
An upper-division course emphasizing lecture, reading, discussion, and writing on specialized topics relating to historical issues of the United States of America. The theme varies from semester to semester according to the expertise of the faculty member teaching the course.

HIST 402 Topics in European History 3c-01-3cr
Prerequisite: Junior/senior History, History Pre-Law or Social Studies Education majors or by instructor permission
An upper-division course emphasizing lecture, reading, discussion, and writing on specialized topics relating to European historical issues. The theme varies from semester to semester according to the expertise of the faculty member teaching the course.

HIST 403 Topics in Non-Western History 3c-01-3cr
Prerequisite: Junior/senior History, History Pre-law or Social Studies Education major or instructor permission.
An upper-division course emphasizing lecture, reading, discussion, and writing on specialized topics relating to non-Western historical issues. The theme varies from semester to semester according to the expertise of the faculty member teaching the course.

HIST 404 Topics in Comparative History 3c-01-3cr
Prerequisite: Junior/senior History, History Pre-Law or Social Studies Education major or instructor permission
An upper-division course emphasizing lecture, reading, discussion, and writing on specialized topics relating to comparative historical issues. The theme varies from semester to semester according the expertise of the faculty member teaching the course.

HIST 480 Senior Seminar 3c-01-3cr
A regimen of research resulting in a written paper. Students work on a program selected by the instructor. For History majors or by instructor's permission.

HIST 481 Special Studies in History var-1-3cr
Prerequisite: As appropriate to course content
Each semester, courses are offered in interest areas that are not part of the regular program. Some examples of courses of this type are the Victorian Age, the History of Love, World War II, the Great Depression, the Adams Chronicles, and the History of New York City. Students may schedule as many of these courses as desired, but two per semester is the usual limit.

HIST 482 Independent Study var-3-6cr
Prerequisites: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office with 12cr in history; a 3.0 GPA in history classes; permission of a faculty member. Approval is based on academic appropriateness and availability of resources.
Involves directed reading or research for qualified students. Experimental projects and personalized learning are encouraged.

HIST 483 Honors Thesis/Independent Study var-3-6cr
Prerequisites: History, History Pre-Law, or Social Science Education/ History Track major; 3.25 cumulative GPA; 3.5 GPA in history courses, departmental permission. Approval is based on academic appropriateness and availability of resources.
A two-semester sequence of research and writing, culminating in an honors thesis. Honors theses are completed individually under the direction of a department professor who specializes in the student's area of interest and are approved by a thesis committee comprising the director and two others, one of whom may come from outside the History Department. May be taken twice for a total of 6cr. Completion of 6cr of HIST 483 substitutes for HIST 480.

HIST 487 Honors Colloquium in History 3c-01-3cr
Colloquium emphasizing reading, discussion, and writing on an announced historical topic or theme which varies from semester to semester according to the expertise of the faculty member teaching the course. Open to all Honors College students who have completed HNRC 201 and, with instructor permission, to junior and senior History, History/Pre-law, and Social Studies Education majors who have at least a 3.5 GPA in history classes.

HIST 493 Internship var-3-12cr
With departmental approval, students are attached to local or national government or private agencies doing directive, bibliographical, archival, or museum work. Advising professor meets with intern regularly and determines what papers or reports are required.

HNRC: Honors College
Robert E. Cook Honors College
Academic Affairs Division

HNRC 101 Honors Core 1 5c-01-5cr
Prerequisites: Freshman standing, admission to the Honors College
This first in a series of three required and interrelated courses introduces Honors College students to major works of literature and art; to major ideas in history, philosophy, religious studies, literature, and the fine arts; and to critical thinking skills used in reading, writing, and discussion in an integrated, synthetic, and interactive pedagogical environment. While materials from various periods and disciplines are part of HNRC 101, each instructor

has attempted to incorporate some works from a common century to provide students with a common ground for exploring the core questions.

HNRC 102 Honors Core II **5c-0l-5cr**
Prerequisites: HNRC 101, freshman standing, and admission to Honors College
The second in a series of three required and interrelated courses. HNRC 102 continues the emphases of HNRC 101: (a) introduction to major works of literature and fine arts; (b) introduction to major ideas in history, philosophy, religious studies; and (c) focus on critical thinking skills used in reading, writing, and discussion in an interrelated, synthetic, and interactive pedagogical environment. Although materials come from various periods and disciplines, each instructor has incorporated works from a common century to provide a common ground for exploring core questions. Building on their experiences in HNRC 101, students become more critical and analytical in their reading and response. Further, the ability to synthesize is emphasized based on their previous readings and learning experiences.

HNRC 201 Honors Core III **4c-0l-4cr**
Prerequisites: Sophomore standing, admission to the Honors College, and successful completion of HNRC 101 and 102 if admitted to Honors College as a first-year student. Prerequisites for students admitted to the Honors College as sophomores are ENGL 101 and at least one Liberal Studies course in the humanities or fine arts.
Completes the introduction of Honors College students to major works of literature and art; major ideas in history, philosophy, religious studies, literature, and the fine arts; and critical thinking skills used in reading, writing, and discussion in an integrated and interactive pedagogical environment.

HNRC 202 Honors Core: Sciences **4c-0l-4cr**
Prerequisites: HNRC 101, 102, sophomore standing, admission to Honors College
Concerned with science as a way of knowing about the world. Focuses on what scientists have learned about what it means to be human, how humans have been shaped by and, in turn, have influenced their environment, and on what use might be made of scientific knowledge. These themes are explored from disciplines in the natural and social sciences.

HNRC 483 Honors Thesis **var-1-6cr**
Prerequisites: Honors College student in good standing; at least junior status at time topic is proposed. Prior approval through advisor, faculty members, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research within the student's major discipline culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6cr. Approval is based on academic appropriateness and availability of resources.

HNRC 499 Honors Senior Synthesis **var-3-6cr**
Prerequisites: 3.25 GPA, Honors College good standing or instructor permission, 73 or more credits earned
Concluding crossdisciplinary Honors College experience, focused on the question "What are the obligations of the educated citizen?" Helps students understand and handle complex intellectual issues from multiple perspectives. A selection of topics is announced and described in the undergraduate course schedule. Substitutes for LBST 499 .

HPED: Health and Physical Education
Department of Health and Physical Education
College of Health and Human Services

HPED 117 Fitness-Swimming **0c-2l-1cr**
Fundamentals and techniques of swimming and fitness.

HPED 124 Fitness Through Dance **0c-2l-1cr**
A physical fitness development course for men and women that employs a combination of exercises and dance techniques performed to music.

HPED 126 Resistive Exercises **0c-2l-1cr**
Fundamentals and techniques of progressive resistive exercises.

HPED 128 Golf **0c-2l-1cr**
Fundamentals and techniques of golf.

HPED 142 Foundations of Health, Physical Education, and Sport **3c-0l-3cr**
Historical, philosophical, and psychosocial foundations of health and physical education are introduced. Specific emphasis is given to scientific theories and principles in such areas as health promotion and behavioral change, exercise physiology, motor development, kinesiology, and motor learning.

HPED 143 Health and Wellness **3c-0l-3cr**
Introduces the major components of wellness: contemporary nutrition issues as they relate to personal food choices, physical fitness, stress management, sexually transmitted diseases, AIDS, and substance abuse. Successful completion fulfills the Liberal Studies Health and Wellness requirement.

HPED 145 Tennis **0c-2l-1cr**
Fundamentals and techniques of tennis.

HPED 162 Scuba Diving **0c-2l-1cr**
Teaches necessary skills and proper use of equipment for underwater swimming. Tanks, regulators, weights, and special equipment furnished. Student must purchase a mask, fins, and snorkel (approximately $15). Includes theory as well as practical work.

HPED 165 Lifeguarding **0c-2l-1cr**
Prerequisites: Departmental consent and Advanced Swimmer
Designed for professional lifeguards. Includes lifeguarding techniques for pools and fresh and saltwater beaches. Red Cross certification (Pittsburgh Division) granted upon satisfactory completion of course requirements.

HPED 166 Basic Smallcraft **0c-2l-1cr**
Prerequisite: Intermediate swimming ability
Introduces the use of the canoe, paddle board, and sailboat. Emphasizes the development of boating skills, safety rescue, and survival procedures. Red Cross smallcraft certification is granted upon successful completion of the course.

HPED 175 Prevention and Care of Injuries to the Physically Active **2c-0l-2cr**
General information is presented related to the prevention, recognition, and care of both acute and chronic injuries common to participants of physical activity/fitness, and athletics. Specific topics to be addressed include prevention techniques, the classification and staging of injury conditions, and basic evaluation techniques, as well as emergency management and follow-up care procedures.

HPED 200 Fundamentals of Physical Activity **1c-2l-1cr**
A foundation course for the purpose of training in the analysis and performance of the fundamental skills for subsequent motor behavior as they relate to games, sports, and dance. Provides the opportunity to refine powers of observation through principles of efficient and effective movement fundamentals. Individual data profile charts of performance are completed for future reference.

HPED 210 Motor Development **2c-0l-2cr**
Corequisite: HPED 200
A study of the processes of growth and development and their effects upon human motor behavior across the lifespan. Includes changes during physical growth, maturation and aging, and subsequent effects upon cognitive, perceptual, and physiological performance, both individually and within a sociocultural context.

HPED 214 Teaching Health Fitness and Gymnastics **1c-2l-1cr**
Prerequisite: HPED 200
Provides the health and physical educator with an overview of the fundamentals and techniques of instructing personal fitness and gymnastics. Includes opportunities for skill development, analysis, and strategies for incorporating fitness and gymnastics into the physical education curriculum.

HPED 215 Teaching Rhythmic Activities and Dance **1c-2l-1cr**
Prerequisite: HPED 200
Provides an aesthetic and kinesthetic movement experience that prepares the student a teacher of basic movement in a variety of situations. Includes creative movement, rhythms, and square, folk, and contemporary dance.

HPED 216 Teaching Elementary Physical Education **2c-2l-2cr**
Prerequisites: EDSP 102, HPED 142
An introduction to instructional methods in physical education with an emphasis on program standards, objectives, and assessments for kindergarten through fifth grade. Provides an overview of characteristics of elementary school children and appropriate activities for this age group. Includes opportunities to improve personal skills, develop units, and teach peers and school age children.

HPED 217 Teaching Middle School Physical Education **2c-2l-2cr**
Prerequisites: EDSP 102, HPED 142
An introduction to instructional methods in physical education with an emphasis on program standards, objectives, and assessments for sixth through eighth grades. Provides an overview of characteristics of middle school children and appropriate activities for this age group. Includes opportunities to improve personal skills, develop units, and teach peers and school age children.

HPED 218 Teaching Secondary Physical Education **2c-2l-2cr**
Prerequisites: EDSP 102, HPED 142
An introduction to instructional methods in physical education with an emphasis on program standards, objectives, and assessments for ninth through twelfth grades. Provides an overview of characteristics of high school students and appropriate activities for this age group. Includes opportunities to improve personal skills, develop units, and teach peers and secondary school students.

HPED 221 Human Structure and Function **3c-0l-3cr**
Anatomical organization of the human body, surveyed in sufficient depth to prepare students for physiology, biomechanics, and adaptive physical education.

HPED 230 Aerobic Fitness **1c-2l-2cr**
An opportunity to participate in a variety of aerobic activities; aids fitness leaders in developing and implementing several types of aerobic programs; offers current information on aerobics as preventive medicine.

HPED 242 Emergency Health Care **1c-2l-1cr**
American Red Cross Standard, Advanced, and Instructor's certification and Multimedia Instructor's certification awarded upon successful completion of this course.

HPED 251 Foundations of Safety and Emergency Health Care **3c-0l-3cr**
Focuses on accident prevention, injury control, and first responder's skills. Emphasizes identification of causes of accidents, recommended countermeasures, and mitigation. American Red Cross certifications are issued in (1) standard first aid, (2) community CPR, (3) instructor of standard first aid, and (4) instructor of community CPR.

HPED 252 Introduction to the Driving Task **2c-2l-3cr**
Provides an in-depth treatment of operating a motor vehicle competently in all major variations and under most conditions encountered in traffic. A competent operator is one who performs the total driving task knowledgeably and skillfully and demonstrates full understanding and application of identification, prediction, decision, and execution process.

HPED 261 Water Safety Instructor **0c-2l-1cr**
Prerequisites: Departmental consent and lifesaving certification
Emphasizes the teaching aspect of skills, techniques, and attitudes necessary in all areas of swimming. Students successfully completing course are qualified to hold such positions as waterfront directors, aquatic directors, and other similar positions.

HPED 263 Aquatics **0c-2l-1cr**
Basic performance techniques in swimming strokes presented with special emphasis on teaching methodology, aquatic sports and games, water safety, skin diving, springboard diving, and other aquatic activities.

HPED 264 Advanced Aquatics **0c-2l-1cr**
Swimming and rescue skills necessary to complete American Red Cross Senior Lifesaving Course. Emphasizes a broad range of other aquatic experiences and teaching strategies.

HPED 270 Instructor of Handicapped Swimming **0c-2l-1cr**
Prerequisite: HPED 261
Concerned with the learning of skills used to teach swimming to exceptional children. All handicaps are considered. Important not only in physical education but also for the mentally retarded, rehabilitation education, agency personnel, postgraduate swimming education, YMCA Boys Clubs, community programs, private clubs, and industrial programs. The Red Cross certification Instructor of Swimming for the Handicapped is granted upon successful completion of the course. Taught in the Summer only.

HPED 271 Instructor of Scuba Diving **0c-2l-1cr**
Prerequisite: HPED 262
Prepares instructors to teach skin and scuba diving. Emphasizes teaching methods, use and mechanics of equipment, safety, diving physics and physiology, and advanced diving skills. Instructor of Scuba Diving certificate granted by the Professional Association of Diving Instructors upon successful completion of the course. Taught in the Summer only.

HPED 272 Instructor of Canoeing **0c-2l-1cr**
Prerequisite: HPED 266
Concerned with the learning of skills pertinent to teaching canoeing to beginners. All aspects of canoeing including paddling, repair of equipment, white water canoeing, safety, survival, and teaching techniques are presented. The Red Cross certification Canoeing Instructor is granted upon successful completion of the course. Taught in the Summer only.

HPED 273 Instructor of Sailing **0c-2l-1cr**
Prerequisite: HPED 266
Concerned with learning of skills pertinent to teaching beginning sailing. All aspects of sailing are considered, including the elements of sailing, repair of equipment, racing, safety, and techniques of teaching. Taught in the Summer only.

HPED 274 Instructor of Infants and Preschoolers in Swimming **0c-2l-1cr**
Prerequisites: HPED 261, instructor permission
Methods course for preparation of swimming instructors in the knowledge and skills of teaching young children to swim. YMCA certification Instructor of the Very Young granted upon successful completion of course requirements. Taught in the Summer only.

HPED 276 Coaching of Swimming **0c-2l-1cr**
Prerequisite: HPED 261
A lecture-discussion methods course to prepare Health and Physical Education majors for coaching of swimming. Emphasizes training methods, officiating, nutrition, scientific principles, and meet strategy. Taught in the Summer only.

HPED 279 Swimming Pool Maintenance and Chemistry **2l-0l-2cr**
Prerequisite: HPED 264
A lecture-discussion course to teach fundamental water chemistry, filtration, treatment of water problems, winterization of outdoor pools, and pool management. Emphasizes water testing and analysis of chemicals and bacteria. Taught in the Summer only.

HPED 280 Aquatic Facilities Management **2l-0l-2cr**
Prerequisite: HPED 264
An organizational and administrative course to prepare the aquatic professional for management of indoor and outdoor facilities. Includes facility design, safety procedures activity, and sport and recreational aspects. Taught in the Summer only.

HPED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

HPED 315 Biomechanics **3c-0l-3cr**
Prerequisite: HPED 221
A study of the relationship between mechanical and physical principles and human movement.

HPED 316 Teaching Elementary Health Education **2c-0l-2cr**
Prerequisites: EDSP 102, HPED 142
Introduces the theories of instruction and methods for teaching health education to elementary school students. Identifies developmentally appropriate teaching methods and activities, reviews and assesses current health curriculum, and demonstrates the use of technology in the health classroom. Provides opportunities for observation, lesson planning, and teaching in both rural and inner city health education classrooms.

HPED 318 Preprofessional Experience I **3c-0l-1cr**
Prerequisite: Health and Physical Education majors only
Recommended Prerequisite: HPED 321
Students teach as assistants to a faculty member in two different activities, one in physical education (general education) and one in elementary physical education. Emphasizes unit development, class management, leadership skills, and evaluation.

HPED 319 Preprofessional Experience II **var-3cr**
Prerequisites: Advanced standing, departmental approval
Students may request an assisting/teaching/leadership assignment in certain university-related areas that may be either instructional or noninstructional in nature. Examples of such professional areas are adaptives, recreation, dance, coaching, aquatics, intramurals, administration, elementary, service or major classes, club activities, and assisting in laboratory or the training room.

HPED 325 School and Community Health **3c-0l-3cr**
Prerequisite: HPED 142
Introduces the role of school and community in protecting and promoting the health of its members. Includes historical development of the concepts of health and health education, identification of national and community goals to reduce risk of disease and enhance health status, and the responsibilities of both school and community toward achieving these goals.

HPED 333 Psychology of Coaching **2c-0l-2cr**
The goals of athletics in schools and communities; principles and responsibilities of the coach; current problems.

HPED 335 Coaching and Managing of Athletic Programs **3c-0l-3cr**
A lecture course to prepare students for coaching or administering an athletic program. Emphasizes the professional preparation and responsibilities of a coach, the support and auxiliary personnel working under and with the coach, and the coach's responsibility to the athletes, plus the administrative responsibilities of coaching.

HPED 341 Evaluation in Health and Physical Education **3c-0l-3cr**
Prerequisite: Junior standing
Evaluation theory, instructional objectives, and cognitive test construction; technical and practical considerations in testing and interpretation of test results in both health and physical education.

HPED 343 Physiology of Exercise **3c-0l-3cr**
Prerequisite: HPED 221
Physiological effects of exercise in humans. Major factors of diet, conditioning, physical fitness, maximum performance level, and fatigue are considered.

HPED 344 Adapted Physical Education **3c-0l-3cr**
Prerequisite: HPED 246
Recognition of structural deviations, corrective exercises, and physical education programs for a wide range of handicaps.

HPED 345 Athletic Training **3c-0l-3cr**
Prerequisite: HPED 221 or equivalent applied anatomy course
A survey of common athletic injuries with emphasis on etiology, pathophysiology, and classification. General injury assessment and management procedures will also be presented.

HPED 346 Athletic Training Lab **0c-2l-1cr**
Corequisite: HPED 345
Develops basic athletic training skills for the beginning and intermediate athletic training student. Emphasizes athletic taping and wrapping, contemporary immobilization and ambulation devices, protective sports equipment, and transportation and transfer of the injured athlete.

HPED 350 Health Aspects of Aging **3c-0l-3cr**
Prerequisites: PSYC 101, SOC 151, and junior standing
Current theory and research related to gerontology are introduced to increase students understanding of the physical and psychosocial dimensions of aging. Additionally, this course emphasizes lifestyle factors and disease prevention aspects of aging. Recommended for students who plan to work with older adults.

HPED 353 Driver Education Program Management **3c-0l-3cr**
Emphasizes the development, organization, and management of high school driver education from the standpoint of its historical development to its present programs designed to meet the demands of the highway transportation system. Special emphasis on the role of the teacher in conducting a high-quality program that meets with student, parent, school, and community approval.

HPED 354 Application of Driver Education Instructional Modes **2c-2l-3cr**
Prerequisites: HPED 251, 252, 353
Prepares prospective driver education teachers to plan, teach, and evaluate the four modes of driver education (classroom, on-road, simulation, and multiple-vehicle range). Teaching high school students in supervised laboratory sessions is provided.

HPED 365 Advanced Athletic Training **3c-2l-4cr**
Prerequisites: HPED 345, 346
Teaches assessment procedures, evaluation methods, and proper athletic training protocol for neuromuscular and skeletal muscle injuries. In addition, administrative issues in athletic training are addressed emphasizing accurate medical documentation. Emphasizes subjective and objective assessment and documentation of findings.

HPED 370 Adapted Health and Physical Education **3c-0l-3cr**
Prerequisites: HPED 210, EDSP 102; At least one of the following: HPED 214, 215, 216, 217, 218, or 316
Introduces the educational issues and methods used to effectively instruct students with disabilities and other issues that become barriers to learning. Includes a study of current laws and guidelines regarding the legal rights of students with disabilities and their parents. Identifies low and high incidence disabilities, recognition of structural deviation, and corrective exercises. Introduces instructional adaptations to facilitate learning in the health classroom and gymnasium.

HPED 372 Health and Physical Education for Special Populations **2c-0l-2cr**
Prerequisites: EDEX 112, junior level or above
Methods and techniques of teaching health and physical education to special populations are explored. Designed primarily for students majoring in special education, the course focuses on handicapping conditions, limitations imposed by such conditions, and the responsibility of the special education teacher working in the physical education setting.

HPED 375 Physiological Basis of Strength Training **3c-0l-3cr**
Gives the anatomical and physiological basis of muscle function. Also gain an understanding of changes that can be made through weight training and

knowledge of programs that will bring about these changes. Opportunities for working with various types of equipment will be available.

HPED 376 Athletic Training Clinical Practicum I **0c-2l-1cr**
Prerequisites: HPED 251, 345, 346
Provides the opportunity to develop and demonstrate proficient psychomotor skills within the domains of athletic injury prevention and acute care, in coordination with a one-semester clinical field experience. This clinical field experience allows each student an opportunity to practice and apply skills taught within this course under the direction of a clinical instructor within the IUP Athletic Department or an affiliated clinical site. Specific skills emphasized include, but are not limited to, those relating to safety/risk management, conditioning, equipment fitting, taping and wrapping, acute care, and transportation/transfer of the injured athlete. Restricted to students seeking certification by the National Athletic Trainers Association.

HPED 377 Athletic Training Clinical Practicum II **0c-2l-1cr**
Prerequisite: HPED 365
Provides the opportunity to develop and demonstrate proficient psychomotor skills within the domain of athletic injury assessment, in coordination with a one-semester clinical field experience. This clinical field experience allows each student an opportunity to practice and apply skills taught within this course under the direction of a clinical instructor within the IUP Athletic Department or an affiliated clinical site. Specific skills emphasized include, but are not limited to, those relating to anatomical landmarks' identification, orthopedic and neurological evaluation, and general medical examination. Restricted to students seeking certification by the National Athletic Trainers Association.

HPED 380 Seminar in Sports Medicine **2c-0l-2cr**
Prerequisite: HPED 345 or instructor permission
Presents comprehensive instruction in such areas as health care administration, pharmacology, radiology, technological advances in sports medicine, and other contemporary issues.

HPED 408 Guided Research Problem **var-2cr**
Prerequisite: Permission of department chairperson
Selection and research of a problem pertinent to student interests and those of the professions of health, physical education, and recreation. Classes held on a seminar basis.

HPED 410 Exercise Prescription **3c-0l-3cr**
Prerequisite: HPED 343
Teaches individuals to write exercise prescriptions based upon a subject's tolerance for physical activity. Special emphasis on risk factors, techniques of evaluation, drugs, injuries, environmental factors, and motivation and their role in physical activity assessment.

HPED 411 Physical Fitness Appraisal **3c-0l-3cr**
Involves the selection, administration, and interpretation of various tests for appraising the physical fitness levels of individuals. Information given concerning the various fitness components, and discussions held so that each student gains an understanding of the variables to be tested.

HPED 412 Physical Activity and Stress Management **3c-0l-3cr**
Acquisition of necessary understanding of anxiety and stress, their nature, place in society, and intervention strategies as they relate to physical activity.

HPED 413 Physical Activity and Aging **3c-0l-3cr**
Presents major aspects of physical activity, its importance to the older adult, and the organization of an activity program. Attention to physiology of physical activity, effects of activity on growth and aging, exercise prescription, flexibility, overweight and obesity, and motivational strategies.

HPED 426 Health Science Instruction **3c-0l-3cr**
Prerequisite: HPED 316
An overview of health curriculum K-12, with a focus on middle school and secondary health education teaching methods and media of instruction. Includes unit development, opportunities for classroom instruction, and guidelines for maintaining professional growth.

HPED 430 The American Woman and Sport **3c-0l-3cr**
Comprehensive, multidisciplinary analysis of the problems, patterns, and processes associated with the sport involvement of girls and women in our culture. Presents historical perspective with an emphasis on physiological, psychological, and sociocultural influences.

HPED 441 Psychosocial Implications for Health and Physical Education **3c-0l-3cr**
Prerequisite: Senior standing
A study of psychological and sociological influences, both theoretical and empirical, and their effects upon health and physical performance.

HPED 442 Seminar in Health, Physical Education, and Recreation I **3c-0l-3cr**
Theory and philosophy of health, physical education, and recreation; current issues and problems; innovative and creative programs.

HPED 446 Therapeutic Modalities **3c-2l-4cr**
Prerequisite: HPED 365
A basic introduction to the use of therapeutic modalities and the role they play in the rehabilitation of athletic injuries. Physical agents used in the care of athletic injuries are presented highlighting the physiological effects of each modality, as well as indications and contraindications for their use.

HPED 447 Cardiopulmonary Resuscitation (CPR) Instructor **1c-1l-1cr**
Prerequisite: Basic CPR certification
A study of methods and skills necessary to certify instructors of cardiopulmonary resuscitation and multimedia first aid. Successful completion of requirements leads to certification by the American Health Association and the American Red Cross. Taught in the Summer only.

HPED 448 Therapeutic Exercises for Athletic Injury Management **3c-2l-4cr**
Prerequisite: HPED 365
The theoretical framework for athletic injury assessment and management of the injured athlete is discussed. A problem-solving approach to the selection and implementation of specific tests and therapeutic interventions is utilized. An overview of therapeutic management as well as the development of skill in basic therapeutic exercise procedures for improving muscle performance, relaxation, and mobilization is included.

HPED 450 Curriculum and Programming in Sexuality Education **3c-0l-3cr**
Topics include anatomy and physiology of the human reproductive tracts, development, birth defects, contraception, venereal disease, and abortion. Not for credit toward degrees in Biology.

HPED 476 Athletic Training Clinical Practicum III **0c-2l-1cr**
Prerequisite: HPED 365
Provides the opportunity to develop and demonstrate proficient psychomotor skills within the domains of athletic training organization/administration and education/guidance, in coordination with a one-semester clinical field experience. This clinical field experience allows each student an opportunity to practice and apply skills taught within this course under the direction of a clinical instructor within the IUP Athletic Department or an affiliated clinical site. Specific skills emphasized include, but are not limited to, those relating to communication, recordkeeping, planning, budgeting and purchasing, facility design, policies/procedures, and other athletic health care managerial/administrative duties. Athletic training instruction and guidance skills are also addressed. Restricted to students seeking certification by the National Athletic Trainers Association.

HPED 477 Athletic Training Clinical Practicum IV **0c-2l-1cr**
Prerequisites: HPED 446, 448
Provides the opportunity to develop and demonstrate proficient psychomotor skills within the domain of athletic injury rehabilitation, in coordination with a one-semester clinical field experience. This clinical field

experience allows each student an opportunity to practice and apply skills taught within this course under the direction of a clinical instructor within the IUP Athletic Department or an affiliated clinical site. Specific skills emphasized include, but are not limited to, exercise, manual therapy, and other advanced musculoskeletal screening and therapeutic intervention techniques. Restricted to students seeking certification by the National Athletic Trainers Association.

HPED 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

HPED 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

HPED 485 Student Assistance Program Training **3c-0l-3cr**
Prerequisites: Junior standing and EDSP 102
Introduces the concept of Student Assistance Programs (SAP) in schools. Includes the history of SAP, current involvement in public education, and the educator's role as an SAP member. Provides an experiential basis for preparation to assume the role of an SAP member. Note: Majors in the B.S.Ed.–Health and Physical Education program will have first opportunity to enroll in class; any openings in the class will then be offered to Elementary and Secondary Education majors.

HPED 492 Health Fitness Instruction **3c-0l-3cr**
Prerequisites: HPED 221, 343, 411 or equivalent
Acquire the knowledge, skills, and abilities required to develop programs of physical activity and fitness for healthy adults and those with controlled disease. Experience in leading an exercise class, knowledge of functional anatomy, and exercise physiology is also expected prior to participation in the class.

HPED 493 Internship **var-3-12cr**
Educational opportunity which integrates classroom experience with practical experience in community service agencies or industrial, business, or governmental organizations. Junior standing required.

HRIM: Hospitality Management
Department of Hospitality Management
College of Health and Human Services

HRIM 101 Introduction to the Hospitality Industry **3c-0l-3cr**
A study of the development and current status of the hospitality industry. Major hotel, restaurant, and related area employers are profiled. Career opportunities are discussed. Guest speakers from various hospitality industry segments are featured.

HRIM 115 Introduction to Tourism **3c-0l-3cr**
Introduces concepts pertaining to international and domestic tourism. Examines the economic, social, and cultural aspects of tourism as well as how destinations are marketed.

HRIM 130 Hospitality Sanitation and Security **3c-0l-3cr**
Introduces concepts and issues pertaining to sanitation and security management in the hospitality industry. Examines causes and prevention of food-borne illness, Hazard Analysis Critical Control Point food production methods, and current government regulations. Special emphasis is on crisis management protocols dealing with critical incidents involving guests and employees. Prepares students for taking the National Restaurant Association ServSafe sanitation certification examination.

HRIM 150 Principles of Hospitality Management **3c-0l-3cr**
Introduces classic management theory and responsibilities, with an emphasis on hospitality industry applications.

HRIM 245 Diversity and Multicultural Management in the Hospitality Industry **3c-0l-3cr**
Prerequisite: Sophomore standing
Explores what happens when diverse people work together in the hospitality industry. Also examines the effects of international migration and the changing roles of women and other minorities which lead to multicultural urban centers within the United States and other hospitality venues. Furthermore, it also focuses on the cultural factors affecting productivity in the culturally diverse hospitality environment.

HRIM 256 Human Resources in the Hospitality Industry **3c-0l-3cr**
Prerequisite: HRIM 150 or Food and Nutrition major
Examines human resources management in the hospitality industry. Topics include cultural diversity, legal requirements, job analysis, recruitment and selection, training and development, performance appraisal, compensation, and benefits administration.

HRIM 259 Hospitality Purchasing **3c-0l-3cr**
Prerequisite: FDNT 150 or equivalent
Includes sources, standards, grades, methods of purchase, and storage of various foods, beverages, and fixtures. Emphasizes the development of purchasing policies and specifications.

HRIM 260 Hotel Systems Management **3c-0l-3cr**
Development and application of management skills as applied to the rooms division of a hotel. Specific emphasis is on front office procedures, the relationship between the hotel's rooms division, food and beverage, and supports areas, and safety and security concerns.

HRIM 265 Hospitality Cost Management **3c-0l-3cr**
Prerequisite: ACCT 201
Identifies and analyzes the control of hospitality operation costs including those in the areas of food, beverage, labor, material, and to compare those costs to industry norms. Students analyze income statements and balance sheets. (Offered as HRIM 401 prior to 2003-04)

HRIM 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

HRIM 299 Cooperative Education (First Experience) **0cr**
Prerequisites: Completion of 30cr, 2.0 GPA
A semester-long program designed to combine classroom theory with practical application through job-related experiences. Student is required to complete two alternating experiences; only one may be a summer experience.

HRIM 310 Professional Development in the Hospitality Industry **2c-0l-2cr**
Prerequisite: HRIM 256
Provides an opportunity to identify and design industry-specific job search strategies, techniques, and skills including resume and cover letter writing, interviewing, portfolio development, and strategies to attain career success within the hospitality industry.

HRIM 313 Food Production and Service **1c-6l-4cr**
Prerequisites: HRIM 130, 150, and instructor permission
Introduces the management of food service operations in commercial kitchen facilities. Includes planning, preparation, and service of quantity food production. Emphasizes the integration of sanitation, menu planning, cost controls, and application of computer software.

HRIM 320 Hospitality Marketing **3c-0l-3cr**
Prerequisite: HRIM 256

Understanding the principles and concepts of marketing as they apply to hospitality management. Analyzes consumer behavior related to the hospitality industry. Students learn to make effective marketing decisions as they apply to customer satisfaction.

HRIM 330 Applications of Food Production and Service **1c-6l-4cr**
Prerequisite: HRIM 313 or FDNT 150/151
Provides training for the hospitality management student in advanced fundamentals of technique, timing, and management skills through laboratory experiences, as well as the operation of the Allenwood Restaurant facility.

HRIM 335 Legal Issues in Hospitality **3c-0l-3cr**
Prerequisite: HRIM 256
Examines the concepts and issues pertaining to hotel and restaurant law, government regulations, and their impact on the hospitality industry. A special emphasis is on innkeeper-guest relationship, employee relations, food laws and liability, liquor law and liability, and guest rights.

HRIM 350 Introduction to the Casino Industry **3c-0l-3cr**
Prerequisite: Sophomore standing or instructor permission
Introduces the multibillion-dollar casino industry. Examines the gaming industry from a historical perspective and includes legal, social, and economic issues. Also reviews the various games played in casinos and the current trends, as well as the most popular casino destinations in the world. Special attention is devoted to the growth of casinos on cruise ships, on Native American reservations, and on riverboats in the U.S. Includes a field trip to Atlantic City or another casino setting, which occurs on a weekend. This field trip serves as a catalyst to appreciate all of the theoretical concepts discussed in the lectures.

HRIM 358 Food Service Equipment and Facilities Design **3c-0l-3cr**
Prerequisite: HRIM 313
Examines types and uses of food service production and service equipment with emphasis on incorporation into an effective facilities design. Field trips permit investigation of a variety of unit designs.

HRIM 365 Hotel Facilities Management **3c-0l-3cr**
Prerequisite: HRIM 101
Analyzes principles of hotel design, construction, and physical plant management. Housekeeping and maintenance department operations are discussed.

HRIM 402 Beverage Management **3c-0l-3cr**
Prerequisite: Verifiable proof of 21 years of age or permission
Examines the principles, processes, and theories of beverage service. Analysis of methods of alcoholic beverage production and examination of categories of spirits, malt beverages, and wine, as well as legal concerns of service. Development and marketing of beverage operations are discussed. Includes voluntary tasting and evaluation of alcoholic beverage products.

HRIM 406 Catering and Banquet Management **var-3cr**
Prerequisites: HRIM 313, majors only; chef's uniform and wait-staff attire required
Profitable organization, preparation, and service of catered events in both on- and off-premises locations are the main emphases. Requires meeting times other than listed in order to meet course objectives.

HRIM 408 Institutions Management **3c-0l-3cr**
Prerequisites: ACCT 201, HRIM 313, 326, senior standing
A compendium of the concepts of managing human resources, capital, materials, equipment, and markets as related to various hospitality property systems. Focus on concept development and managerial decision making.

HRIM 411 Seminar in Hospitality Management **3c-0l-3cr**
Prerequisites: HRIM 360, 365
An analysis of the current trends and practices within hospitality industry as related by industry professionals. Includes researching topics and writing at least three research papers. Carries writing-intensive credit.

HRIM 413 Advanced Food Production and Service **1c-6l-4cr**
Prerequisites: HRIM 330 and permission
A food and beverage systems course emphasizing restaurant front- and back-of-the-house operations management. Research, plan, prepare, and present theme-oriented dinners showcasing selected domestic and international cuisine. Students function as both operations employees and managers within the department's food and beverage operation.

HRIM 420 Hotel Sales **3c-0l-3cr**
Prerequisites: HRIM 101 and 260
A practical approach to understanding the functions and activities of the sales department within a hotel property. A thorough review of the organizational structure of a typical hotel sales department and documentation used by the department will be made. Identification of and approaches to securing typical hotel market segments are made.

HRIM 433 Educational Study Tour **var-2-6cr**
A comprehensive program of directed activities permits firsthand experiences in the historical and cultural aspects of the hospitality industry worldwide. Visits to renowned operations are included in the tour.

HRIM 470 Hospitality Business Model **3c-0l-3cr**
Prerequisites: Senior status and instructor permission
Provides the opportunity to integrate and apply hospitality operations management concepts into the development of a working hospitality business model.

HRIM 481 Special Topics **var-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

HRIM 482 Independent Study in Hospitality Management **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources. Must apply a semester in advance and have 60cr earned.

HRIM 493 Internship **var-3-12cr**
Prerequisites: 57cr earned, 2.0 GPA, and completion of an approved 400-hour pre-Internship experience
An opportunity for students to work in a supervised experience directly related to the Hospitality Management major. Must meet university and departmental internship requirements. Minimum of 400 hours required.

Note: White uniforms including white shoes are required for all lab courses where food is prepared. Students must meet the professional dress requirements of the department.

IFMG: Information Management
Department of Management Information Systems and Decision Sciences
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

IFMG 101 Microbased Computer Literacy **3c-0l-3cr**
An introductory course designed to provide a fundamental understanding of computers. Familiarizes students with the interaction of computer hardware and software. Emphasizes the application of microcomputers, the use of productivity software (word processing, spreadsheet management, file and database management, presentation graphics, web browsers, search strategies, and e-mail), and the social and ethical aspects of the impact of computers on society. (Does not count toward Computer Science major.) Note: cross-listed as BTED and COSC 101. Any of these courses may be

substituted for each other and may be used interchangeably for D or F repeats but may not be counted for duplicate credit.

IFMG 201 Internet and Multimedia **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101 or prior exposure to word processing and electronic mail
Focuses on the evaluation of information and multimedia resources available on electronic networks when doing research in an area of one's choice. Information literacy course is designed for students to gain a more in-depth understanding of the information resources available electronically and of how to utilize them more effectively in communicating. Students learn how to access and utilize these resources for two-way communications and support for decision making while incorporating selected elements in multimedia presentations of their own design. (BTED/COMM/COSC/IFMG/LIBR 201 may be used interchangeably for D or F repeats and may not be counted for duplicate credit.)

IFMG 205 Foundations of MIS **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101
An introductory course to provide students with a fundamental understanding of MIS. Systems theory, quality, decision making, and the organizational role of information systems are introduced. Information technology, including basic programming skills, is stressed. Introduces concepts of organization, information system growth, telecommunications, and reengineering.

IFMG 210 Introduction to Front-End Business Applications **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101
Provides an introduction to systems and development concepts, information technology, and front-end business application software. Explains how information is used in organizations and how MIS enables improvement in quality, timeliness, and competitive advantage. As part of this course, students learn how to design and construct a front-end business application using a programming language.

IFMG 230 Introduction to Back-End Business Applications **3c-0l-3cr**
Prerequisites: ACCT 201 and IFMG 210
Introduces the back-end business programming language as it applies to business organizations and their applications. Structured back-end business concepts and methods are taught as the student learns how to solve business problems using computers. Involves using files, reports, and tables to produce a variety of outputs utilized in operating and managing business activities.

IFMG 250 Business Systems Technology **3c-0l-3cr**
Prerequisite: IFMG 210 or COSC 110
Presents a functional review of computing equipment and the organization of components and devices into architectural configurations. Also teaches the principles of system software and build an understanding of combinations of hardware and software within architectural designs. (Offered as IFMG 350 prior to 2003-04)

IFMG 251 Business Systems Analysis and Design **3c-0l-3cr**
Prerequisites: ACCT 201 and IFMG 210
Involves teaching the tools and techniques required for the analysis and the design of business systems. The major steps in the system's development life cycle are presented along with practical applications from the major subsystems of typical business organizations. Issues related to personnel, hardware, software, and procedures are explored as students work individually and in project teams to solve typical business application problems. MIS majors are allowed to count this course towards satisfying their graduation requirements.

IFMG 255 Business Applications in COBOL **3c-0l-3cr**
Prerequisites: ACCT 201 and IFMG 205
Introduces the COBOL programming language as it applies to business organizations and their applications. Structured COBOL concepts and methods are taught as the student learns how to solve business problems using computers. Involves using files, reports, and tables to produce a variety of outputs utilized in operating and managing business activities.

IFMG 261 Micro Database Systems **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG101
The fundamentals of database management including different database models and database design issues are examined. Emphasizes the use of various tools of relational database software, including report generators, screen builders, and query facilities. Design techniques and software tools are used in creating a database application. Intended as an elective for business students who are not majoring in MIS. MIS majors are not allowed to count this course towards satisfying their graduation requirements.

IFMG 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

IFMG 300 Information Systems: Theory and Practice **3c-0l-3cr**
Prerequisites: ACCT 202, COSC/BTED/IFMG 101
Includes basic MIS concepts, fundamentals, and practices. Broad areas of coverage are principles, the computer as a problem-solving tool, computer-based information systems (CBIS), organizational information systems, and Information Systems management.

IFMG 330 Advanced Back-End Business Applications **3c-0l-3cr**
Prerequisite: IFMG 230 or COSC 220
Explores back-end business programming language as it applies to business organizations and their applications. Shows ways to embed and link a variety of techniques of back-end business concepts and methods to solve business problems using computers and web technologies. The student implements back-end business and user interface techniques in managing business activities.

IFMG 352 LAN Design and Installation **3c-0l-3cr**
Prerequisite: BTST 273 or IFMG 250 or any COSC course numbered 300 or higher
A study of fundamental local area networking concepts. A detailed study of the basics of local area network (LAN) technology. A comparative study of commercially available LAN systems and products. Features a hands-on laboratory implementation of a LAN. Cross-listed as COSC 352. Either course may be substituted for the other for D/F repeats but may not be taken for duplicate credit.

IFMG 354 Testing and Controlling LANs **3c-0l-3cr**
Prerequisite: COSC 352 or IFMG 352 or equivalent
Explores local area network (LAN) topologies and their associated protocols. Introduces ways of interconnecting, securing, and maintaining LANs. Provides hands-on experience in the interconnection of multiple LANs. Also presents a hands-on approach to design, testing, and administration of interconnected LANs. Cross-listed as COSC 354. Either course may be substituted for the other for D/F repeats but may not be taken for duplicate credit.

IFMG 368 E-Commerce Security **3c-0l-3cr**
Prerequisite: IFMG 352
Introduces the security concepts, operating systems security, network security, database, web server, and communication security. Public and common practices of procedures and regulations regarding e-commerce security are explored. Writing information security policies will be introduced.

IFMG 370 Advanced COBOL **3c-0l-3cr**
Prerequisite: COSC 220
Corequisite: IFMG 250
A continuation of introductory COBOL with an emphasis on structured methodology of program design, development, testing, implementation, and documentation of common business-oriented applications. Includes a heavy emphasis on the techniques and concepts of the table processing, file organization, and processing alternatives, internal and external sorting,

subroutines, and application development for both the batch and on-line systems. Micro Focus COBOL software is utilized.

IFMG 382 IT Audit and Control **3c-0l-3cr**
Prerequisites: ACCT 201, COSC 220 or IFMG 230 or equivalent programming course
Emphasizes the responsibility of the systems analyst to include in systems design the proper management and financial controls and audit trails in business information systems. The design of controls for application programs and systems is covered. Audit software packages are examined.

IFMG 450 Database Theory and Practice **3c-0l-3cr**
Prerequisites: IFMG 230 or COSC 220
Reviews the database design, data model methodologies, physical data structure, and database development and implementation. The remote data service, transaction server, and database administration are introduced. Emphasizes the practical approach in accessing the database using Internet technology.

IFMG 451 Systems Analysis **3c-0l-3cr**
Prerequisites: IFMG 250 and 255 or COSC 220
Develops an understanding of concepts and techniques involving conventional and structured approaches to analyzing problems of business information systems and systems definition feasibility, as well as quantitative and evaluative techniques of business information systems analysis.

IFMG 455 Data Warehousing and Mining **3c-0l-3cr**
Prerequisites: IFMG 450 or 261 or COSC 441, and MATH 214 or 216
Introduces the strategies, technologies, and techniques associated with this growing MIS specialty area. Composed of two main parts. In the first part, students learn the basic methodology for planning, designing, building, using, and managing a data warehouse. In the second part, students learn how to use different data mining techniques to derive information from the data warehouse for strategic and long-term business decision making.

IFMG 460 Analysis and Logical Design **3c-0l-3cr**
Prerequisites: IFMG 352 and 450
Involves teaching the tools and techniques required for the analysis and design of a business system. Along with in class discussions of the principles and techniques for analyzing, designing, and constructing the system, the students also formulate system teams in order to analyze the problems of an existing business information system, to design an improved system, and to control the implementation of the new system.

IFMG 465 ERP Technical Fundamentals **3c-0l-3cr**
Prerequisite: IFMG 450 or instructor permission
Provides a fundamental understanding of Enterprise Resource Planning (ERP) Software. Shows students how to use ERP and its various function modules as well as give students an understanding of the IS implementation, technical, managerial, coding, and reporting skills necessary to successfully incorporate ERP into a business enterprise.

IFMG 470 Systems Design **3c-0l-3cr**
Prerequisite: IFMG 451
A study of tools and techniques for design of a business system. Along with classroom discussions of principles and techniques for analyzing, designing, and constructing the system, students formulate system teams to analyze the problems of an existing business information system, to design an improved system, and to control implementation of a new system.

IFMG 475 Project Management and Implementation **3c-0l-3cr**
Prerequisite: IFMG 460
Introduces the demands made on the project manager and the nature of the manager's interaction with the rest of the parent organization in development of a Business Information System. Studies the difficult problems associated with conducting a project using people and organizations that represent different cultures, politics, and may be separated by considerable distances. Also covers how to implement and carry out the development of the project using several Information Systems development methodologies.

IFMG 480 Distributed Business Information Systems **3c-0l-3cr**
Prerequisite: IFMG 250
A study of the techniques involved in planning, designing, and implementing distributed processing systems. Distributed marketing, financial, and corporate accounting systems are included.

IFMG 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

IFMG 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. Approval based on academic appropriateness and availability of resources.

IFMG 485 Seminar: IS Current Topics **3c-0l-3cr**
Prerequisites: IFMG 300, senior standing
Current topics and issues in information systems in the business environment are addressed through systematic coverage of current literature and/or electronic sources. Practitioner publications and academic journals integrate emerging technologies and information issues with identification of their impact on the management of business organizations. Not a capstone requirement but a vehicle to explore a variety of topics in the field.

IFMG 493 Internship in MIS **var-3-12cr**
Prerequisites: IFMG 352 and 450, consent of department chairperson
Positions with participating business, industry, or governmental organizations provide the student with experience in systems analysis. Note: Course can be taken as a 3cr major-area elective requirement.

ILR: Industrial and Labor Relations
Department of Industrial and Labor Relations
College of Health and Human Services

ILR 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

ILR 426 Case Studies in Labor-Management Relations **3c-0l-3cr**
An in-depth study of daily labor-management relationships in a variety of organizational settings through utilization of case study technique. Focuses on a problem-solving approach to the legal and contract administration components of the labor-management relationship.

ILR 480 Principles and Practices of Collective Bargaining **3c-0l-3cr**
An examination of the historical, legal, and functional parameters of collective bargaining. Topics include the organizing process, negotiations, contract administration, dispute resolution, and public sector labor relations.

ILR 481 Special Topics in Industrial and Labor Relations **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

ILR 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty

member. Approval is based on academic appropriateness and availability of resources.

ILR 499 Independent Study **var-1-3cr**
Independent reading and research under the direction of a faculty member.

INDS: Interior Design
Department of Human Development and Environmental Studies
College of Health and Human Services

INDS 105 Introduction to Interior Design **3c-0l-3cr**
Presents overview of interior design, including introduction to design, selection, and application of components in the interior environment. Emphasizes development of effective design problem solving skills.

INDS 118 Drafting for Construction I **1c-3l-3cr**
Introduces two- and three-dimensional graphic skills, including basic drawing, drafting, delineating, perspective drawing; applies principles and elements of design; stresses graphic design and layout.

INDS 205 Color Theory and Application **3c-0l-3cr**
The theoretical basis of color is presented as it relates to the human visual system, light, pigment, perception, and measurement. The application of color theory is discussed in terms of interior design, merchandising, and display.

INDS 213 Residential Appliances and Consumer Electronics **2c-2l-3cr**
Consumer education in the selection, use, and care of home equipment appliances and consumer electronics; the relationship of energy sources and utilities to major appliances, portable and personal care appliances, and consumer electronics.

INDS 218 Drafting for Construction II **1c-3l-3cr**
Prerequisite: INDS 118
Introduces basic computer-aided drafting and design (CADD) for designers; emphasizes CADD theory and the value of the computer as a problem-solving, design tool.

INDS 281 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics which are not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

INDS 305 Interior Lighting **3c-0l-3cr**
Prerequisite: INDS 105 or equivalent
Lighting fundamentals applicable to the environmental design of residential and commercial spaces. Includes calculation methods, terminology, theory of color visibility, light source alternatives, fixture function and selection, lighting trends, and related professional organizations.

INDS 310 Human Factors in Interior Design **3c-0l-3cr**
Prerequisite: Junior standing
The study of human and technology systems interface as related to interior design. Emphasizes ergonomic and economic decision making to insure that the user can function with a minimum of stress and a maximum of efficiency.

INDS 312 Housing and Culture **3c-0l-3cr**
Managerial, sociological, economic, and aesthetic aspects of housing and people are investigated as well as a consideration of the environment of the home as part of the community.

INDS 313 Materials and Finishes **3c-0l-3cr**
Prerequisite: FSMR 314
An introduction to the modern and historic use and maintenance of materials in architecture, construction, and interior design and the codes and costs that govern their use today. Consideration is given to contemporary methods of harvesting, preparation, and manufacture of building materials and the evaluation of the impact of these processes on the environment.

INDS 315 Residential Design I **1c-3l-3cr**
Prerequisite: INDS 218
Applies interior design space planning and design problem solving processes to residential design and emphasizes graphic communication and presentation of solutions.

INDS 319 Residential Design II: Kitchen, Bath, Media Room Design **1c-3l-3cr**
Prerequisite: INDS 315
Design elements are applied to kitchen, bath, and media room areas of the residence to provide design solutions supporting individual needs and changing lifestyles. Addresses the needs of special populations. Current national standards are addressed

INDS 370 Development of Design I **3c-0l-3cr**
A chronological study from ancient times to the mid-nineteenth century of the dominant influences and characteristics of historical interiors, furniture, and ornamental design. Emphasizes stylistic detail and its relationship to social, economic, political, religious, and aesthetic influence and to the contemporary scene.

INDS 380 Development of Design II **3c-0l-3cr**
Prerequisite: INDS 370
A chronological study from mid-nineteenth century to the present of the dominant influences and characteristics of the twentieth-century interior, furniture, and ornamental design. Emphasizes stylistic detail and its relationship to social, economic, political, religious, and aesthetic influences and to contemporary usage.

INDS 405 Interior Design Professional Practice **3c-0l-3cr**
Prerequisite: Junior standing
Planning, business organization, management, contracts, procedures, and ethics for the professional interior designer.

INDS 433 Study Tour **var-1-6cr**
Prerequisite: Upper-level standing
Opportunity is provided to visit business establishments and cultural centers concerned with household equipment, furnishings, textiles, clothing, and housing in America as well as abroad. Museums, factories, designers' showrooms, distribution centers, stores, cultural events, and seminars are included. Course may be repeated for a total of 6cr. (Cross-listed as CNSV/FSMR 433.)

INDS 464 Contract Design I **1c-3l-3cr**
Prerequisite: INDS 319
Applies interior design space planning and design problem-solving processes to nonresidential design and links goals in interior design and facility management.

INDS 465 Contract Design II **1c-3l-3cr**
Prerequisite: INDS 464
A studio, project-based course, ascertaining the process to be followed in developing large-scale nonresidential interior design schemes of over 10,000 square feet.

INDS 481 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics which are not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

INDS 482 Independent Study **var 1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

ITAL: Italian
Department of French and German
College of Humanities and Social Sciences

ITAL 101 Basic Italian I **3c-0l-3cr**
Introduces the Italian language, with emphasis on the four basic skills: reading, writing, speaking, and listening. Also gain knowledge of Italian culture. Primary emphasis is on the mastery of oral communication and basic writing skills. Attendance and language lab practice are required.

ITAL 102 Basic Italian II **3c-0l-3cr**
Prerequisite: ITAL 101 or equivalent
A continuation of Basic Italian I. Introduces the Italian language, with emphasis on the four basic skills: reading, writing, speaking, and listening. Also gain knowledge of Italian culture. Primary emphasis is on the continuing mastery of oral communication and writing skills. Attendance and language lab practice are required.

ITAL 201 Intermediate Italian III **3c-0l-3cr**
Prerequisites: ITAL 101 and 102 or equivalent
An intermediate-level course for students who have previously studied Italian. A continuation of mastery of the four skills: reading, writing, speaking, and listening. Also increases knowledge of Italian history, culture, and literature.

ITAL 202 Intermediate Italian IV **3c-0l-3cr**
Prerequisite: ITAL 201 or equivalent
An intermediate-level course for students who have previously studied Italian. Continue progress in the mastery of the four skills: reading, writing, speaking, and listening. Emphasizes increasing proficiency in reading and writing. Also increases knowledge of Italian history, culture, and literature.

ITST: International Studies
Department of Political Science
College of Humanities and Social Sciences

ITST 281 Special Topics in Non-Western Studies **var-1-3cr**
Focuses on politics, society, and culture of a particular non-Western country or area. Content is variable, depending on the semester. Taught by visiting exchange professors from non-Western countries. This Special Topics course may be offered on a continuing basis.

ITST 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

JRNL: Journalism
Department of Journalism
College of Humanities and Social Sciences

JRNL 102 Basic Journalistic Skills **3c-0l-3cr**
Prerequisite: ENGL 101
Required for journalism majors and minors. Emphasizes grammar, punctuation, spelling, *AP Stylebook*, copyediting, headlines, and accuracy.

JRNL 105 Journalism and the Mass Media **3c-0l-3cr**
Prerequisite: ENGL 101
A critical examination of roles-goals of newspapers, magazines, radio, books, movies, and television as they affect American society socially, politically, and economically.

JRNL 120 Journalistic Writing **3c-0l-3cr**
Prerequisite: ENGL 101, nonmajors/minors
Emphasizes intelligent use of writing ability in a journalistic style and understanding of the why of journalism and mass media. Practices and improves writing skills.

JRNL 220 Writing for the Print Media **3c-0l-3cr**
Prerequisites: JRNL 102 (grade of C or better), majors only
A course in journalistic style intended for students who plan to become professional writers. Teaches the basic journalistic formats and strategies used in print media such as the summary lead, the delayed lead, and the conventional news-story format. Throughout, emphasizes economy, clarity, and the development of voice for a given medium.

JRNL 243 History of the American Press **3c-0l-3cr**
Prerequisite: JRNL 120 or 220
Traces the development of the American press from its Colonial roots. Emphasizes the role of the press in political and social development.

JRNL 250 Women and the Press **3c-0l-3cr**
Prerequisites: ENGL 101, sophomore standing
Explores the role of women in American journalism. Includes study of lives/careers of women journalists and their specific contributions to the profession. Emphasizes evolution of equal opportunity for women and other minorities in the American Press. Attention to the changing definition of news as influenced by the inclusion of women and minorities in editorial roles.

JRNL 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

JRNL 321 Feature Writing **3c-0l-3cr**
Prerequisites: JRNL 102, 220
Designed for the student who might work in journalism or who might wish to write on a part-time or free-lance basis.

JRNL 326 Public Relations I **3c-0l-3cr**
Prerequisites: JRNL 102, 120 or 220
Introduces the principles, practices, programs, and possibilities in the various areas of public relations.

JRNL 327 Layout, Design, and Production **2c-3l-3cr**
Prerequisite: JRNL 105
Provides basic techniques and theories of layout design and production, including typography, copyfitting, photo/art cropping and scaling, and steps in design process. Includes traditional paste-up and desktop publishing in the design of ads, newspapers, newsletters, brochures, and magazines.

JRNL 328 News Reporting **3c-0l-3cr**
Prerequisites: JRNL 102, 105, 220, majors only
Includes instruction in writing the news story, preparing copy, interviewing, covering special events, and similar reporting activities.

JRNL 337 Editing **3c-0l-3cr**
Prerequisites: JRNL 102, 220
Stresses basic practices such as copyediting and headline writing while also focusing on guidelines for improving accuracy, clarity, transition, spelling, and punctuation of copy. Students use wire service stylebook extensively.

JRNL 344 Issues and Problems **3c-0l-3cr**
Prerequisites: JRNL 102, 120 or 220
Examines critical case histories of ethical and professional situations and circumstances in the mass communication industry in a lecture and discussion format.

JRNL 345 Sports Journalism **3c-0l-3cr**
Prerequisite: JRNL 220
Emphasizes skills for covering, writing, and editing of sports and introduces specific practices in newspaper, radio-TV, and sports information work.

JRNL 347 Journalism Law **3c-0l-3cr**
Prerequisites: JRNL 328, junior/senior standing
Open to nonmajors by instructor permission. A survey of the major Supreme Court and state court rulings governing the mass media, especially

the news media. Areas include libel, antitrust, free press/fair trial, privacy. Approach is nontechnical.

JRNL 348 The Editorial Page **3c-0l-3cr**
Prerequisite: Junior/senior standing
Emphasizes the writing of vigorous but thoughtful and fair editorials. Study of contemporary practice and policy on letters to the editor, columnists, cartoons, the op-ed page.

JRNL 375 World News Coverage **3c-0l-3cr**
Prerequisite: Sophomore standing
Deals with international news events and analysis of international news coverage in sources from around the world. Emphasizes analyzing comparative coverage of events in different sources. Students study not only current international news but also how it is reported. The goal of the course is fostering a critical attitude toward news.

JRNL 393 Document Design I **3c-0l-3cr**
Prerequisite: Junior/senior standing
Teaches advanced principles of document design and gives the opportunity to apply techniques of rhetorical/stylistic analysis, general problem solving, and holistic information display to a wide variety of writing formats used in business, industry, and government news.

JRNL 423 Management in Mass Communications **3c-0l-3cr**
Prerequisite: JRNL 493 or field experience
Attention given to the process of advancement to management positions in the advertising, journalism, and public relations industries.

JRNL 427 Publications **3c-0l-3cr**
Prerequisite: JRNL 327 or instructor permission
Provides advanced techniques and theories of publications design, including the legibility principles of typography, the psychological impact of color and paper, and designing on-line publications, such as newspapers, newsletters, and magazines. Also teaches principles and concepts of publications management, including coping with deadline pressures and the creative disposition, and the marketing of publications. The class produces a total publication.

JRNL 430 Public Opinion and the News Media **3c-0l-3cr**
Prerequisite: Junior standing
Deals with understanding and measuring public opinion. Emphasizes critically analyzing the historical origins and the dynamics of public opinion in the policymaking process as well as the role of the news media in public opinion. Students then measure people's thinking on any given issue or issues.

JRNL 446 Research Methods in Journalism **3c-0l-3cr**
Prerequisite: JRNL 328 or instructor permission
Explores theoretical and practical issues in information gathering, with emphasis on data analysis and computer-assisted reporting for public affairs journalism. Students apply scientific methods in news reporting and analyze the effects of precision journalism on society.

JRNL 450 Advertising Writing **3c-0l-3cr**
Prerequisites: JRNL 220, instructor permission
A basic course in the preparation of advertising copy and continuity for all media. A combination of lecture and laboratory course. Enrollment is limited to fifteen upperclass majors per semester.

JRNL 455 High School Journalism **3c-0l-3cr**
Prerequisite: Junior standing or permission
Aimed at equipping students with basic skills in teaching and student media advising at the high school level. Offers a package of skills ranging from basic elements of news, news writing, editing, newspaper layout and design, to student publications advising as well as legal and ethical issues in high school journalism. For nonmajors.

JRNL 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
These courses vary from semester to semester, covering a number of journalism specialties. From time to time they are converted to permanent course numbers. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

JRNL 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Opportunities for independent study that goes beyond the usual classroom activities. Approval based on academic appropriateness and availability of resources; enrollment is limited to fifteen upperclass majors per semester.

JRNL 490 Public Relations II **3c-0l-3cr**
Prerequisites: JRNL 220, 326
A public relations writing class that includes assignments such as releases, features, newsletters, reports, biographies, rewrites, hometown stories, copyediting, interviewing, research, and special projects.

JRNL 491 Presentation Making **3c-0l-3cr**
Prerequisites: JRNL 220, 326
Gives practice in writing and making oral presentations based on public relations cases and problems. Familiarizes the student with problem-solving and small-group communication skills necessary for those working in the area of public affairs.

JRNL 492 Problem-solving in Public Relations **3c-0l-3cr**
Prerequisite: JRNL 328
Introduces techniques for analyzing and tracking information flow in organizations. Introduces creative problem-solving techniques which are standard practice in corporate research groups.

JRNL 493 Internship **var-6-12cr**
Prerequisites: JRNL 102, 105, 220, 328, department approval
On-the-job training opportunities in journalism and related areas. Maximum of 6cr may be applied to 30cr minimum of major.

JRNL 494 Document Design II **3c-0l-3cr**
Prerequisites: JRNL 328, 393
Gives students advanced work in preparation of substantial corporate and government documents such as annual reports, lengthy project reports, and research reports, etc. Emphasizes skills in research of public and government documents, data analysis and problem solving, holistic information display, writing, and editing.

LAS: Latin American Studies
College of Humanities and Social Sciences

LAS 281 Special Topics in Latin American Studies **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

LAS 370 Latinos and Diasporas **3c-0l-3cr**
Introduces the global and local dimensions of the changing Latino communities in the United States and examines the communities' multiple connections and dynamic interactions with Latin American diasporas. Towards this end, the course covers: (1) theories on transnational communities, diasporas, the state, and citizenship; (2) Latino cultures and geography; (3) Latin American immigration and labor migration to the United States; and (4) the impact of Latin American diasporic networks on Latino and non-Latino communities. (Cross-listed as ANTH 370)

LAS 480 Latin American Studies Seminar **3c-0l-3cr**
A multidisciplinary colloquium emphasizing reading, discussion, and writing on specialized topics related to Latin American society, culture, history, literature, politics, geography, economics, and business. Specific topics include, but are not limited to, the nature of Pre-Columbian cultures; the effects of colonialism and independence on present-day Latin America; the relationship between Latin America and the United States, Africa, and Europe; and the growing presence and significance of people of Hispanic descent in the United States. Open to all majors; required for all Latin

American Studies minors.

LAS 481 Special Topics in Latin American Studies **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

LBST: Liberal Studies
Liberal Studies Program
Academic Affairs Division

LBST 499 Senior Synthesis **3c-0l-3cr**
Prerequisite: 73cr or more earned
Helps students understand and handle complex intellectual and social issues from multiple perspectives. A selection of topics, available each semester and summer session, is announced and described in the undergraduate course schedule. Students should schedule the course during the senior year or at least no earlier than the last half of the junior year. In order to broaden their experiences, students are encouraged to enroll in synthesis sections taught by instructors outside of the students' major fields.

LIBR: Library
The University Libraries
Academic Affairs Division

LIBR 151 Introduction to Library Resources **var-1cr**
A lecture/laboratory course (fourteen one-hour classes) which provides an introduction to the resources of a university library, how those resources are organized, and how to use those resources effectively.

LIBR 201 Internet and Multimedia **3c-0l-3cr**
Prerequisite: BTED/COSC/IFMG 101 or prior exposure to word processing and electronic mail
Focuses on the evaluation of information and multimedia resources available on electronic networks when doing research in an area of one's choice. Information literacy course is designed for students to gain a more in-depth understanding of the information resources available electronically and of how to utilize them more effectively in communicating. Students learn how to access and utilize these resources for two-way communications and support for decision making while incorporating selected elements in multimedia presentations of their own design. (BTED/CM/COSC/IFMG/LIBR 201 may be used interchangeably for D or F repeats and may not be counted for duplicate credit.)

LIBR 251 Information Access in the Digital Age **2c-0l-2cr**
An introduction to library research equips the student with information literacy skills so that the student will be able to determine the extent of information needed; access the needed information effectively and efficiently; evaluate information and its sources critically; incorporate selected information into one's knowledge base; use information effectively to accomplish a specific purpose; understand the economic, legal, and social issues surrounding the use of information; and access and use information ethically and legally. Provides conceptual and practical expertise as an information networker to locate, evaluate, and use effectively the needed information. Basic knowledge of computer applications is helpful.

LIBR 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

LIBR 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

LRNC: Learning Enhancement Center
The Learning Enhancement Center
Division of Student Affairs

LRNC 070 Reading Skills for College Study **3c-0l-3cr**
Assists in the development of college-level reading skills with emphasis on textbook reading. Includes literal and critical comprehension skills, vocabulary development, and reading efficiency. Carries institutional, nondegree credit, and attendance is required.

LRNC 075 Reading and Study Skills Applications **1c-0l-1cr**
Assists in the applications of college-level reading and study skills to content-area coursework. Intended for freshman students in poor academic standing who need additional and individualized guidance in the transfer of learning strategies into day-to-day reading and coursework. Participate in small-group instruction as well as individual appointments with the instructor. Carries institutional, nondegree credit, and attendance is required.

LRNC 090 Introduction to College Math I **3c-0l-3cr**
Prerequisite: May not register for this course after successfully completing any course offered by the Mathematics Department without the written approval of the Learning Enhancement Center director
Reviews basic computational skills and their applications. Includes operations with whole numbers, decimals, and fractions; the concepts of ratios, proportions, and percents; basic geometric principles; and an introduction to algebra. Carries institutional, nondegree credit, and attendance is required.

LRNC 091 Developmental Mathematics, Arithmetic Operations **1c-0l-1cr**
Prerequisite: May not register for this course after successfully completing any course offered by the Mathematics Department without written approval of the Learning Enhancement Center director
Explores the basics of counting principles, place value, arithmetic operations, exponential notation, and fractional notation through a base 8 perspective. Vocabulary, concept development, and algorithms related to the above topics are presented in a lecture format. Supplemental Instruction is provided. Carries institutional, nondegree credit, and attendance is required.

LRNC 092 Developmental Mathematics, Elemental Topics **1c-0l-1cr**
Prerequisite: May not register for this course after successfully completing any course offered by the Mathematics Department without written approval of the Learning Enhancement Center director
Provides minimal algebra skills prior to introducing basic probability and descriptive statistics concepts as well as a review of basic geometry concepts and algorithms. Topics include identification and simplification of terms and expressions; mean, median, mode calculations; bar, line, and circle graph construction and interpretation; application and calculation of plane geometry formulae. Carries institutional, nondegree credit, and attendance is required.

LRNC 093 Developmental Mathematics, Elements of Algebra **1c-0l-1cr**
Prerequisite: May not register for this course after successfully completing any course offered by the Mathematics Department without written approval of the Learning Enhancement Center director
Introduces algebraic concepts and algorithms with a comparison of Arithmetic algorithms to associated Algebraic algorithms. Topics include properties and operations on real numbers, simplifying expressions, order of operations, solving equations and inequalities, formulas, exponential and scientific notation, and operations on polynomials. Carries institutional, nondegree credit, and attendance is required.

LRNC 095 Introduction to College Math II **3c-0l-3cr**
Prerequisite: May not register for this course after successfully completing any course offered by the Mathematics Department, without written approval of the Learning Enhancement Center director

Introduces beginning algebraic concepts, including signed numbers; rules and properties of equations; exponents; polynomials; factoring; algebraic fractions; graphs and linear equations, inequalities, and radical expressions. Carries institutional, nondegree credit, and attendance is required.

LRNC 150 Introduction to Higher Education **1c-01-1cr**
Introduces the system of higher education and to skills that promote effective educational planning and academic success. Orients students to the systems, resources, policies, and procedures of IUP and to the Liberal Studies curriculum. Emphasizes goal setting, decision making, self monitoring, and time-management skills.

LRNC 160 Learning Strategies **1c-01-1cr**
Assists students to develop and use effective and efficient study strategies on a consistent basis. Students examine their academic goals and implement study strategies to help achieve those goals. Includes the topics of goal setting and self-monitoring, learning styles, test preparation and test taking, lecture and textbook note taking, time management and concentration, and general strategies for learning. Students will be required to give evidence of application of the study strategies to other courses in which they are currently enrolled. Active participation in class meetings is expected.

LRNC 170 Career Exploration **1c-01-1cr**
Introduces the theoretical and practical framework with which to explore careers compatible with overall academic skills, aptitudes, and life goals. Examine the world of work, assess their interests and abilities, and make realistic decisions on academic majors and careers. (Cross-listed as ADVT 170. These courses may be substituted for each other and may be used interchangeably for D or F repeats but may not be counted for duplicate credit.)

LRNC 201 Vocabulary Expansion **2c-01-2cr**
Assists students to develop an enriched vocabulary through learning and applying knowledge of Latin and Greek word parts and mastering the meanings and use of mature words based on those word parts. The primary emphasis is on developing the reading vocabulary, but attention is also given to students' writing, listening, and speaking vocabularies.

MATH: Mathematics
Department of Mathematics
College of Natural Sciences and Mathematics

MATH 100 Intermediate Algebra **3c-01-3cr**
Note: May not take this course after successfully completing MATH 105 or 110 or a calculus course without written Mathematics Department chairperson approval
Basic course in algebra including factoring, exponents and radicals, systems of linear equations, complex fractions, and inequalities. Designed for those students who lack the basic algebraic skills required in MATH 105 or 110. Will not meet Liberal Studies math requirements.

MATH 101 Foundations of Mathematics **3c-01-3cr**
Introduces logic and mathematical way of analyzing problems; develops an appreciation for nature, breadth, and power of mathematics and its role in a technological society; introduces useful mathematics or mathematics related to student interest. Possible topics include logic, problem solving, number theory, linear programming, probability, statistics, intuitive calculus, introduction to computers, mathematics of finance, game theory.

MATH 105 College Algebra **3c-01-3cr**
Prerequisite: MATH 100 or appropriate Placement Test Score or permission of the Mathematics Department chairperson
Note: May not take this course after successfully completing either a calculus course or MATH 110 without written Mathematics Department chairperson approval
Prepares students for the study of calculus for business, natural, and social sciences. Topics include detailed study of polynomial, exponential, and logarithmic functions.

MATH 110 Elementary Functions **3c-01-3cr**
Prerequisite: MATH 100 or appropriate Placement Test Score or permission of the Mathematics Department chairperson
Note: May not take this course after successfully completing a calculus course without written Mathematics Department chairperson approval
Prepares mathematics and science students for the study of calculus. Topics include detailed study of polynomial, exponential, logarithmic, and trigonometric functions.

MATH 115 Applied Mathematics for Business **4c-01-4cr**
Prerequisites: MATH 105 or appropriate Placement Test score or permission of the Mathematics Department chairperson
Note: May not take this course after successfully completing a calculus course without written Mathematics Department chairperson approval
Offers a review of elementary functions including logarithmic and exponential functions. Business majors are introduced to the mathematics of finance and central ideas of the calculus, including limit, derivative, and integral. Applications to business and economics are emphasized.

MATH 117 Principles of Mathematics **3c-01-3cr**
An introduction to the nature of mathematics, designed specifically as a first course for Mathematics Education majors to experience several facets of mathematics including deduction, induction, problem solving, discrete mathematics, and theory of equations. Enrollment open to Secondary Mathematics Education majors only.

MATH 121 Calculus I for Natural and Social Sciences **4c-01-4cr**
Prerequisite: MATH 105 or 110 or appropriate Placement Test Score or permission of the Mathematics Department chairperson
Note: May not take this course after successfully completing a calculus course without written Mathematics Department chairperson approval
Offers a review of elementary functions, including logarithmic and exponential functions. Natural and Social Science majors are introduced to the central ideas of calculus, including limit, derivative, and integral. Applications to natural and social sciences are emphasized.

MATH 122 Calculus II for Natural and Social Sciences **4c-01-4cr**
Prerequisite: MATH 121
Applications of integrals to natural and social sciences, functions of several variables, trigonometric functions, sequences and series, numerical methods, and differential equations.

MATH 123 Calculus I for Physics, Chemistry, and Mathematics **4c-01-4cr**
Prerequisites: High school algebra, geometry, and trigonometry
Functions, limits, continuity, derivatives, application of the derivative, integral, and applications of the integral. (Trigonometric and inverse trigonometric functions are included throughout the course.)

MATH 124 Calculus II for Physics, Chemistry, and Mathematics **4c-01-4cr**
Logarithmic and exponential functions, techniques of integration, sequences and series, differential calculus of functions of several variables, multiple integrals, line integrals, surface integrals, differential equations with application to physical problems.

MATH 151 Elements of Mathematics I **3c-01-3cr**
Topics included are sets, concepts of logic, mathematical systems, systems of numeration, developing the set of integers, rational numbers, and real numbers.

MATH 152 Elements of Mathematics II **3c-01-3cr**
Prerequisite: MATH 151
Topics included are sentences in one variable, sentences in two variables, nonmetric geometry, metric geometry, coordinate geometry, introduction to statistics and probability, computers, and calculators.

MATH 171 Introduction to Linear Algebra **3c-01-3cr**
An introduction to vector spaces, linear transformations, determinants, and matrix algebra. Topics are presented in a direct and intuitive approach.

MATH 214 Probability and Statistics for Business Majors **3c-01-3cr**

Studies the methods of describing data, probability theory, discrete and continuous random variables, sampling distributions, estimation and tests of hypothesis for means, proportions and variance, and simple linear regression and correlation.

MATH 216 Probability and Statistics for Natural Sciences 4c-0l-4cr
Prerequisite: MATH 121 or 123
Frequency distributions, measures of central tendency and variation, probability, probability distributions, sampling distributions. Hypothesis testing for means, variances, proportions. Correlation and prediction, regression, analysis of variance, and nonparametric statistics. Emphasis is on applications.

MATH 217 Probability and Statistics 3c-0l-3cr
(For non-Math majors) Frequency distributions, measures of central tendency, variation, elementary probability, sampling, estimation, testing hypotheses, correlation, and regression; emphasis on applications as opposed to theoretical development of topics.

MATH 219 Discrete Mathematics 3c-0l-3cr
Prerequisite: COSC 110 and MATH 122 or 123
Topics include set algebra, mappings, relations, semigroups, groups, directed and undirected graphs, Boolean algebra, and propositional logic, with examples and applications of these to various areas of computer science. Emphasizes developing an intuitive understanding of basic structures rather than formal theories and influence of these topics on theory and practice of computing.

MATH 241 Differential Equations 3c-0l-3cr
Prerequisites: MATH 122 or 124
Emphasizes techniques of solution and applications of differential equations. Topics include first order equations, second order linear equations, systems of linear equations, and series solutions of differential equations.

MATH 271 Introduction to Mathematical Proofs I 3c-0l-3cr
Prerequisites: MATH 123 and 171
Gives basic ideas of necessary to prove results in mathematics. Includes but is not limited to logic of mathematics, basic methods of proof, algebra of sets, equivalence relations and partitions of sets, functions, and mathematical induction.

MATH 272 Introduction to Mathematical Proofs II 3c-0l-3cr
Prerequisites: MATH 124 and 271 with a grade of C or better
A further study of the basic ideas of contemporary mathematics. Topics include but are not limited to mathematical induction, cardinality of sets, relations, methods of proof in number theory, analysis, and algebra.

MATH 281 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

MATH 317 Probability and Statistics for Elementary and Middle School Teachers 3c-0l-3cr
Prerequisites: MATH 152, Elementary Education concentration
Introduces students to elementary concepts of probability and statistics which enables them to analyze data, make predictions, and determine which concepts may be used with children.

MATH 320 Mathematics for Early Childhood 3c-0l-3cr
Prerequisites: MATH 151, Early Childhood Education/ PreK-Grade 6 major
Studies child-centered, activity-oriented mathematics programs for early childhood education. Focuses on helping children develop understanding and insight into basic concepts of mathematics through the use of manipulative materials. Topics include pre-number activities, number activities, numeration, operations on whole numbers, estimation, rational numbers, geometry, measurement, probability, statistics, and problem solving.

MATH 340 Principles of Secondary School Mathematics 3c-0l-3cr
Prerequisite: MATH 271
Provides the mathematics content needed to teach in secondary schools. Connections are made between advanced and secondary school mathematics. Open to secondary mathematics education majors only.

MATH 342 Advanced Mathematics for Applications 4c-0l-4cr
Prerequisite: MATH 241
Deals with the application of mathematics to problems of science. Emphasizes the three phases of such an application and on the development of skills necessary to carry out each step: (a) translation of the given physical information to a mathematical model; (b) treatment of the model by mathematical methods; (c) interpretation of the mathematical result in physical terms. Topics include vector calculus, integral theorems, Fourier series, partial differential equations, and the Laplace transformation.

MATH 350 History of Mathematics 3c-0l-3cr
Prerequisite: MATH 122 or 124 or instructor permission
Development of the central concepts of mathematics from ancient times up to the development of calculus in the seventeenth century. Mathematical concepts are placed in historical perspective. The use of the history of mathematics as a pedagogical tool and its relationship to other sciences will be addressed.

MATH 353 Theory of Numbers 3c-0l-3cr
Prerequisite: MATH 271 with a grade of C or better
Divisibility, congruences, primitive roots, number theoretic functions, diophantine equations, continued fractions, quadratic residues.

MATH 355 Foundations of Geometry I 3c-0l-3cr
Prerequisites: MATH 171, 271 with a grade of C or better
Studies various groups of transformations and geometries associated with these groups in the Euclidean plane. The Euclidean Similarity and affine and projective groups of transformations are studied.

MATH 363 Mathematical Statistics I 3c-0l-3cr
Prerequisites: MATH 122 or 124; 216
Probability theory necessary for an understanding of mathematical statistics is developed. Applications of set theory to models, combinations and permutations, binomial, Poisson and normal distributions, expected values, and moment generating functions.

MATH 364 Mathematical Statistics II 3c-0l-3cr
Prerequisite: MATH 363
Multivariate distributions, change of variable technique, chi-square distribution, estimation, confidence intervals, hypothesis testing, contingency tables, goodness of fit. Practical applications are used to aid in the development.

MATH 366 Preparation for Actuarial Examinations 1c-0l-1cr
Prerequisites: MATH 171 and calculus sequence
An introduction to the actuarial profession and helps the student prepare for the first actuarial examinations. The examination preparation consists of studying sample actuarial examinations and related material. Student is required to take the actuarial examination. Student should be aware that for most students, considerable study beyond the requirements of this 1cr course is required in order to pass the actuarial examinations.

MATH 371 Linear Algebra 3c-0l-3cr
Prerequisites: MATH 171, 271 with a C or better grade
Vector spaces and linear transformations are studied in a theoretical setting. Also, canonical forms and multilinear algebra are studied.

MATH 417 Statistical Applications 3c-0l-3cr
Prerequisites: MATH 214, 216, or 217 (for non-Math majors)
Using computer programs, a wide array of statistical procedures for educational research workers will be explored. Basic concepts of statistical inference and prediction are reviewed, including regression analysis and prediction, hypothesis testing, analysis of variance and covariance, and partial and multiple correlation. Emphasizes use of the computer and

interpretation of computer printouts, along with understanding techniques employed. No computer knowledge is necessary.

MATH 418 Sampling Survey Theory and Its Application 3c-01-3cr
Prerequisites: (For non-Math majors) MATH 214, 216, or 217
Directed to the student who is or will be doing quantitative research, commissioning large-scale surveys, and evaluating the results. Sampling techniques and statistical principles underlying their use are introduced. Consideration to the practical problems associated with implementation.

MATH 420 Patterns and Functions for Elementary and Middle School Teachers 3c-01-3cr
Prerequisites: MATH 152; Elementary Education concentration
Examines the function concept as applied to elementary real number functions and graphing techniques for these functions. Topics include real number functions such as absolute value, step, linear, quadratic, and other polynomial functions, trigonometric and other periodic functions, exponential logarithmic functions, and all other inverse functions. Students examine curricular materials that develop function concepts in Grades K-8.

MATH 421 Advanced Calculus I 3c-01-3cr
Prerequisites: MATH 124 and 272 with a grade of C or better
A study of set theory, real number system, functions topology of Cartesian space, sequences, convergence and uniform convergence, continuity, and uniform continuity.

MATH 422 Advanced Calculus II 3c-01-3cr
Prerequisite: MATH 421
Includes the study of convergence sequences in Rn, global properties of continuity, uniform continuity, differentiation of Rn, Riemann integrals, and infinite series.

MATH 423 Complex Variables 3c-01-3cr
Prerequisite: MATH 124
An introduction to the theory of functions of a complex variable: topics included are elementary functions, analytic functions, conformal mapping, integration, series, and application.

MATH 425 Applied Mathematical Analysis I 3c-01-3cr
Prerequisites: Calculus sequence, introductory linear algebra, or instructor permission
Provides the necessary background for an understanding of mathematical programming, proofs of convergence of algorithms, convexity, and factorable functions. Also develops necessary concepts in matrix theory which are required to develop efficient algorithms to solve linear and nonlinear programming models.

MATH 427 Introduction to Topology 3c-01-3cr
Prerequisite: MATH 272 with a grade of C or better
A study of sets, functions, continuity, compactness, the separation of axioms, and metric spaces; application of topology to analysis is demonstrated.

MATH 430 Seminar in Teaching Secondary School Mathematics 3c-01-3cr
Prerequisite: Junior standing
Provides insights into the teaching of general mathematics, algebra, geometry, probability, and statistics. Students become aware of and use the resources and methods of instruction for teaching mathematics at the secondary level. Open to secondary mathematics education majors only and must be taken within two semesters prior to student teaching.

MATH 445 Programming Models in Operations Research 3c-01-3cr
Prerequisites: Two-semester sequence of calculus and MATH 171 or instructor permission
Development of deterministic mathematical models for managerial and social sciences with relevant computational techniques.

MATH 446 Probabilistic Models in Operations Research 3c-01-3cr
Prerequisites: Two-semester sequence of calculus, MATH 363
Development of probabilistic mathematical models for managerial and social sciences with relevant computational techniques.

MATH 447 Simulation Models 3c-01-3cr
Prerequisites: Completion of the calculus sequence; background in statistics and probability, and familiarity with concepts of programming (knowledge of a particular programming language not required)
Considers the types of models that are basic to any simulation and methods for building and using such models. Includes discrete and continuous system simulations, their applications, and an introduction to SLAM II (Simulation Language for Alternative Modeling).

MATH 451 Numerical Methods for Supercomputers 3c-01-3cr
Prerequisites: MATH 121 and 122, or MATH 123 or 127, MATH 171, COSC 250
Supercomputers make use of special computer architectures–vector and parallel processors–in order to achieve the fastest processing speed currently available. Students are introduced to these features and learn how numerical algorithms can be constructed to exploit supercomputers' capabilities. Gain practical experience in programming for the Cray, YMP, in incorporating existing scientific software packages into user-written programs, in submitting remote jobs to the Pittsburgh Supercomputer Center, and in producing animated graphical output to summarize the typically large volume of output data generated by large scientific programs. (Also offered as COSC 451; may not register for duplicate credit)

MATH 452 Seminar in Teaching Algebra var-1-4cr
MATH 453 Seminar in Teaching Geometry var-1-4cr
MATH 454 Seminar in Teaching General Mathematics var-1-4cr
Designed for pre-student teacher. Students in each class gain insights into the problems in teaching each topic and become aware of the materials available and methods of instruction geared to the special type of student. Education majors only.

MATH 455 Seminar in Teaching Probability and Statistics 1c-01-1cr
Designed for the pre-student teacher. Students in each class gain insights into the problems in teaching each topic and become aware of the materials available and methods of instruction geared to the secondary mathematics student. Education majors only.

MATH 456 Geometry for Elementary and Middle School Teachers 3c-01-3cr
Prerequisites: MATH 152, Elementary Education concentration
Become acquainted with an informal, intuitive approach to geometry. Activities and materials for teaching geometrical concepts to children are an integral part of the course.

MATH 457 Number Theory for Elementary and Middle School Teachers 3c-01-3cr
Prerequisites: MATH 152, Elementary Education concentration
An introduction to topics of elementary number theory including divisibility, prime numbers, factorization, modular arithmetic, problem solving, and place of number theory in the elementary school curriculum. Students examine many number theory activities which can help to strengthen skills with basic facts in an interesting, nonroutine setting.

MATH 458 Logic and Logical Games for Elementary and Middle School Teachers 3c-01-3cr
Prerequisites: MATH 152, Elementary Education concentration
An introduction to some of the basic ideas, terminology, and notation of mathematical logic and Boolean algebra as well as games of strategy that involve logic. In addition, an investigation of how logic is taught and used in various programs for the elementary school.

MATH 459 Techoology in Elementary and Middle School Mathematics Instruction 3c-01-3cr
Prerequisites: MATH 152, Elementary Education concentration
Develops the knowledge, skills, and perspectives required for using educational technology in teaching mathematics at the elementary and middle school levels. Participants have hands-on experiences with technology.

MATH 460 Technology in Mathematics Instruction 3c-0l-3cr
Prerequisite: COSC 110, junior status
Laboratory based and designed to provide preservice mathematics teachers with expertise in instructional technology for teaching mathematics at the secondary level. A strong emphasis is placed upon the integration of pedagogy and subject matter knowledge. Open to secondary mathematics education majors only and must be taken within two semesters prior to student teaching.

MATH 465 Topics in Statistics 3c-0l-3cr
Prerequisite: MATH 364
Correlation and regression from applied and theoretical points of view, bivariate and multivariate normal distribution, analysis of variance, nonparametric methods. Practical problems involving statistical techniques and use of computer statistical packages. Knowledge of computer programming is not required.

MATH 471 Basic Concepts of Algebra 3c-0l-3cr
Prerequisites: MATH 152, Elementary Education concentration
Concepts of basic algebraic structures such as group, ring, integral domain, field, and vector space are studied within the context of the mathematical maturity of the student. Other topics include relations and functions, polynomials and polynomial equations, systems of equations, and inequalities. Consideration given to development of these concepts in the mathematics curriculum.

MATH 476 Abstract Algebra I 3c-0l-3cr
Prerequisite: MATH 272 with a grade of C or better
Development of theory of integral domains, fields, rings, and groups; designed to develop student's power to think for himself or herself and to improve ability to construct formal proofs.

MATH 477 Abstract Algebra II 3c-0l-3cr
Prerequisite: MATH 476
Continue study of algebra by use of axiomatic method; Euclidean domains; polynomial domains and extension fields included; interrelationships between these structures and simpler structures, particularly groups and rings, are developed as in study of Galois group of a polynomial and in an introduction to Galois theory.

MATH 480 Senior Seminar 1c-0l-1cr
Prerequisite: Senior standing in Mathematics major
To assess the effectiveness of the mathematics curriculum and to provide mathematics majors with a culminating mathematical experience.

MATH 481 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

MATH 482 Independent Study var-1-3cr
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

MATH 490 Independent Study var-1-3cr

MATH 493 Internship in Mathematics var-3-12cr
Prerequisites: Completion of core curriculum, completion of application
Positions with participating companies or agencies provide students with experience in mathematics-related work under the supervision of the agencies and faculty. Requirements include one to three on-site consultations, two university consultations, completion of progress reports, and presentation of final cumulative paper. Internship credit may not be used in fulfilling math major course requirements.

MEDT: Clinical Laboratory Science
Department of Nursing and Allied Health Professions
College of Health and Human Services

MEDT 494 Clinical Microbiology var-6-10cr
Identification and clinical pathology of bacteria, fungi, viruses, and parasites. Techniques to isolate, stain, culture, and determine antimicrobial susceptibility. Instrumentation; quality control.

MEDT 495 Clinical Chemistry var-7-10cr
Enzymology, endocrinology, biochemistry of lipids, carbohydrates, and proteins; metabolism of nitrogenous end products; physiology and metabolism of fluids and electrolytes; and toxicology as related to the body and diseases. The technical procedures include colorimetry, spectrophometry, electrophoresis, chromatography, automation, and quality control.

MEDT 496 Clinical Hematology/Coagulation var-4-7cr
The composition and function of blood; diseases related to blood disorders; the role of platelets and coagulation. Manual and automated techniques of diagnostic tests for abnormalities.

MEDT 497 Clinical Immunohematology var-3-6cr
Blood antigens, antibodies, crossmatching, hemolytic diseases, and related diagnostic tests. An in-depth study of blood donor service and its many facets such as transfusions, medico-legal aspects, etc.

MEDT 498 Clinical Immunology/Serology var-2-4cr
Immune response, immunoglobulins, autoimmunity, and complement and related tests and diseases. Survey and demonstration of serological diagnostic tests.

MEDT 499 Clinical Seminar var-0-6cr
Other courses which are not included in the above (such as orientation, laboratory management, education, clinical microscopy) and/or are unique to the individual hospital program.

MGMT: Management
Department of Management
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

MGMT 234 Introduction to Quality Control 3c-0l-3cr
Prerequisite: Must be enrolled in either the Associate in Applied Science in Electro-Optics or the Associate of Science in Electro-Optics
Introduces the principles, philosophies, and practices of Total Quality Management (TQM) and the techniques of Statistical Quality Control including fundamentals of probability and statistics, control charts for variables and attributes, acceptance sampling, and reliability concepts.

MGMT 275 Introduction to Entrepreneurship 3c-0l-3cr
Prerequisites: ACCT 201, ECON 121, sophomore status, only for nonmajors, permission by department
Entrepreneurship is defined, common myths are discussed, and characteristics of entrepreneurs are identified. Basic characteristics of entrepreneurs are reviewed. Includes topics such as the psychology of entrepreneurship; economic and social aspects of entrepreneurship; history; techniques of purchasing a company; new venture initiation; and risk taking.

MGMT 281 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

MGMT 300 Human Resource Management 3c-0l-3cr
Prerequisite: PSYC 101

Recognizes and evaluates the application of behavioral science approaches in the study of human resource management. Includes recruiting and selection, training, management development, performance evaluation, communications, wage and benefit programs, and management-labor relations.

MGMT 305 Organizational Staffing **3c-0l-3cr**
Prerequisites: MATH 214, MGMT 300
Focuses on the theoretical, technical, administrative, and legal issues involved in the recruitment, selection, placement, and promotion of individuals by organizations. Includes human resource planning, job analysis, job description and specifications, recruitment, selection process, equal employment opportunity and affirmative action, reliability and validity of selection instruments and techniques, and contemporary issues in selection.

MGMT 310 Principles of Management **3c-0l-3cr**
Provides an in-depth identification and understanding of the relevant theories, concepts, and principles underlying the management function.

MGMT 311 Human Behavior in Organizations **3c-0l-3cr**
Prerequisite: PSYC 101
Human problems of management. Basic ideas and theories from the behavioral sciences as they apply to human behavior in organizations are presented. Management solutions to problems resulting from individual-organization interaction are emphasized.

MGMT 325 Small Business Management **3c-0l-3cr**
Prerequisites: MGMT 275, 310, MKTG 320
A survey course emphasizing those aspects of small business management not covered elsewhere in the student's program. Key topics include Real Estate, Site Selection, and Facilities Management; Purchasing Management, Vendor Relations, and Inventory Systems; Plant Security, Loss Control, Risk and Insurance Management; Human Resources Management, Employee Benefits, Motivation, and Leadership; Small Business Market Research, Customer Services Management, and Pricing. A review of other elements of the small firm's milieu is included as a necessary contextual element (e.g., planning, accounting, financing, law).

MGMT 330 Production and Operations Management **3c-0l-3cr**
Prerequisite: MATH 115, 214, junior status, Eberly College of Business and Information Technology or approved major
A study of the process of converting an organization's inputs into outputs whether in goods-producing or service industries. Provides an overview of concepts, tools, and techniques used in management of production and operations function in organizations.

MGMT 334 Quality Management **3c-0l-3cr**
Prerequisite: MGMT 330
Emphasizes the philosophy that quality is an organizationwide phenomenon that influences every aspect of its operations. An overview of current quality management philosophies and tools and techniques for managing quality in manufacturing and services.

MGMT 350 International Business **3c-0l-3cr**
Prerequisite: MGMT 310
A study of the international dimensions of business and the critical environmental and organizational factors that affect managerial approaches in the international arena. Focuses upon the management problems stemming from the movement of goods, human resources, technology, finance, or ownership across international boundaries. (Also offered as MKTG 350)

MGMT 351 International Management **3c-0l-3cr**
Prerequisite: MGMT 310
Provides a general foundation on managing multinational corporations (MNCs). Examines the macro- and structural-level issues of MNCs. Focuses on planning, organization structure, managerial decision making, and human resource management in global structures and differences between MNCs and domestic organizations.

MGMT 400 Compensation Management **3c-0l-3cr**
Prerequisite: MGMT 300
Studies the policies and programs that help managers design and administer compensation systems for private and public sector enterprises. Includes motivation theories and practice designing of compensation systems.

MGMT 401 Management Development and Training **3c-0l-3cr**
Prerequisites: MGMT 300, 310
Principles, problems, and procedures in planning, organizing, directing, and controlling all aspects of training and development programs in a business enterprise. Methods of improving and development of managerial skills are emphasized.

MGMT 402 Seminar in Human Resource Management **3c-0l-3cr**
Prerequisites: MGMT 300, graduating senior
An integrative course in Human Resource Management. Considers current issues in human resource management literature and contemporary topics in the human resource management field using case studies.

MGMT 403 Small Business Planning **3c-0l-3cr**
Prerequisites: ACCT 300, BTED/COSC/IFMG 101, MGMT 325
Integrates the content of much of the business core and relates it to the business planning for small businesses and entrepreneurial efforts. Introduces the concepts which support the development of an effective business plan.

MGMT 406 Human Resources Management Research **3c-0l-3cr**
Prerequisites: MGMT 300, QBUS 215
The study of the nature of research questions, research methods, research design, collection, analysis, and interpretation of data. Focuses on design, development, implementation, and evaluation of Human Resources Management programs. Applications in employee selection, performance measurement, work attitudes and motivation, employee training, and development areas.

MGMT 428 Seminar in Management **3c-0l-3cr**
Prerequisite: MGMT 310
An integrative course in management Considers current literature in the field and contemporary issues in management using case studies.

MGMT 432 Business and Society **3c-0l-3cr**
An overview of the interactions between business and the larger social system in which it operates. Considers the problem, solutions, and future directions of societal issues and their relationships to the business environment. Topics discussed include consumerism, the morality of advertising, self-regulation, pollution and ecology, overpopulation, government regulation, and the social and ethical responsibilities of business and industry. (Also offered as MKTG 432; may not be taken for duplicate credit)

MGMT 437 Operations Management System **3c-0l-3cr**
Prerequisite: MGMT 330
A theoretical and practical understanding of manufacturing and service planning and control, including systems modeling, purchasing and sourcing, information and control including MPS, MRP, and MRP-II, scheduling, etc. Manufacturing and service technologies and trends are also emphasized. Computer applications are used for understanding the interrelationships between various components of operations system.

MGMT 438 Seminar in Operations Management **3c-0l-3cr**
Prerequisites: MGMT 330, senior standing
An integrative course in operations management. Considers and analyzes the current literature and contemporary topics in the area of providing service and producing goods. Case studies and field trips are used to provide a comprehensive knowledge of the theories, current practices, and trends in several topical areas of operations management. Students learn to present their findings and analyses in a professionally written format.

MGMT 452 Comparative Management **3c-0l-3cr**
Prerequisite: MGMT 350
The study of the similarities and differences among managers, management practices, and organizations in different cultures. A variety of comparative management systems, models, and theories are presented, and research findings are examined.

MGMT 454 International Competitiveness 3c-3l-3cr
Prerequisite: MGMT 350
The study of the most important challenges that face nations and firms alike in gaining or restoring competitiveness. Focuses on factors that determine the success of nations and their firms in highly dynamic world markets. Various theories, models, and cases dealing with competitive advantage are examined.

MGMT 459 Seminar in International Management 3c-0l-3cr
Prerequisites: MGMT 454, senior standing
An analysis of recent literature and developments related to global business issues such as strategic alliances, human resource management in global environments, global assignments, Japanese business system, multinational corporations in the world economy.

MGMT 481 Special Topics in Management var-1-3cr
Covers advanced, innovative, or exploratory topics and disciplines within management. Specific content items developed by instructor. Credits may be applied to either required (by permission of department chairperson) or free electives in a student's program.

MGMT 482 Independent Study var-3cr
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member. Approval based on academic appropriateness and availability of resources.

MGMT 492 Small Business/Entrepreneurship Internship var-3-12cr
Prerequisites: MGMT 403, permission of department chairperson, 2.75 cumulative GPA, all other requirements of the Eberly College of Business and Information Technology
Involves practical entrepreneurial experience of on-site consulting with small business firms. Students generally work for a semester on functionally related topics in accounting, finance, marketing, and MIS or on general topics such as business planning, forecasting, policy, and general management.

MGMT 493 Management Internship var-3-12cr
Practical experience to develop knowledge and skills in the application of theory to actual problems in a nonclassroom setting. A maximum of 3cr of internship in the student's major may be applied toward the management and human resource management major area elective requirements. Additional internship credit must be used as free electives only. Admission only by permission of the department chairperson and dean, Eberly College of Business and Information Technology.

MGMT 495 Business Policy 3c-0l-3cr
Prerequisites: Completion of all Business Core requirements or permission; graduating seniors
A capstone case analysis course designed to give practice in applying business theories to the solution of management problems. An analysis of how top management determines strategy and policy and influences the philosophy and character of the company. Develops a general management viewpoint that integrates the various functions of the organization.

MKTG: Marketing
Department of Marketing
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

MKTG 320 Principles of Marketing 3c-0l-3cr
Prerequisite: ECON 122
A study of those activities necessary to the design, pricing, promotion, and distribution of goods and services for use by organizations and ultimate consumers.

MKTG 321 Consumer Behavior 3c-0l-3cr
Prerequisites: MKTG 320 and PSYC 101
A survey of noteworthy contributions of behavioral science and research on consumer purchasing and decision-making process, with particular attention to formal and informal influence patterns.

MKTG 350 International Business 3c-0l-3cr
Prerequisite: MGMT 310
A study of the international dimensions of business and the critical environmental and organizational factors that affect managerial approaches in the international arena. Focuses upon the management problems stemming from the movement of goods, human resources, technology, finance, or ownership across international boundaries. (Also offered as MGMT 350)

MKTG 351 Self-Marketing 1c-0l-1cr
Prerequisite: Junior standing (as per credits earned)
Focuses on the development of both long-term and short-term self-marketing plans and self-marketing packages. Theories of managerial marketing, professional selling, market research, and advertising applied to self-marketing in order to prepare students to seek internship experience.

MKTG 420 Marketing Management 3c-0l-3cr
Prerequisites: MKTG 320 and 321
An analysis of marketing and operational problems and policies involved in planning, organizing, coordinating, and controlling a total marketing program.

MKTG 421 Marketing Research 3c-0l-3cr
Prerequisites: MKTG 320 and MATH 214
Nature, methods, analysis, and application of present-day marketing research techniques utilized in the solution of practical marketing problems.

MKTG 422 Seminar in Marketing 3c-0l-3cr
Prerequisites: MKTG 420 and 421, graduating senior
A terminal course designed for majors in marketing; considers current literature in the field, case problems pertaining to the total marketing effort, and current problems of actual companies.

MKTG 430 International Marketing 3c-0l-3cr
Prerequisite: MKTG 320
International marketing and markets are analyzed. Special consideration is given to the significance of government regulations, organization structures of export and import enterprises, and credit policies.

MKTG 431 Business-to-Business Marketing 3c-0l-3cr
Prerequisite: MKTG 420
Concerned with the major activities involved in the marketing of industrial goods and services, including the industrial marketing system, marketing information needs of the industrial firm, industrial marketing implementation and control, and channel, pricing, product, and promotional strategies for industrial goods.

MKTG 432 Business and Society 3c-0l-3cr
An overview of the interactions between business and the larger social system in which it operates. Considers the problems, solutions, and future directions of societal issues and their relationships to the business environment. Topics discussed include consumerism, the morality of advertising, self-regulation, pollution and ecology, overpopulation, government regulation, and the social and ethical responsibilities of business and industry. (Also offered as MGMT 432; may not be taken for duplicate credit)

MKTG 433 Advertising 3c-0l-3cr
Prerequisite: MKTG 320
An introduction to the principles, practices, and creations of advertising. Use of various media and legal, economic, social, and ethical aspects of advertising are also considered.

MKTG 434 Marketing Logistics 3c-0l-3cr
Prerequisites: Junior/senior standing, MKTG 320 and MGMT 330
Focuses on planning, organizing, and controlling the marketing logistics function. In addition to the acquisition and application of management

science methods, students integrate and apply previously gained knowledge to analyze and solve complex marketing logistics problems. Areas of major concentration include facility location, transportation, inventory management, and customer service.

MKTG 435 Professional Selling and Sales Management **3c-0l-3cr**
Prerequisite: MKTG 320
Introduces the role and nature of modern personal selling in marketing. Theory and practice of personal selling process, sales planning, delivering sales presentations, and relationship marketing are emphasized. Basics of managing sales force including territory management, recruiting, training, and compensating sales force are also covered.

MKTG 436 Retail Management **3c-0l-3cr**
Prerequisite: MKTG 320
Introduces all facets of retailing including the history of retailing, retail theories, and decision-making in retailing framework.

MKTG 437 Services Marketing **3c-0l-3cr**
Prerequisite: MKTG 320
Focuses on current theories and applications of marketing techniques in the fast-growing area of services in the business, government, and nonprofit sectors. Emphasizes characteristics of services and their marketing implications and formulation and implementation of marketing strategies for service firms.

MKTG 438 Relationship Marketing **3c-0l-3cr**
Prerequisite: MKTG 320
Relationship marketing entails performing marketing activities directed toward establishing, developing, and maintaining successful long-term relational exchanges. Covers theory and practice of relationship marketing.

MKTG 439 Internet Marketing **3c-0l-3cr**
Prerequisite: MKTG 320
Presents a strategic framework for developing marketing strategies on the Internet. Extends the marketing mix framework to e-commerce using current theories and applications in on-line product, on-line pricing, web-based marketing communication, and distribution strategies. Other topics include marketing research on the Internet, electronic retailing, Internet-based customer relationship management, and legal-ethical dimensions of e-marketing. Students use Internet-based on-line marketing cases.

MKTG 440 Direct Marketing **3c-0l-3cr**
Prerequisite: MKTG 320
Introduces the role and nature of direct marketing, including its current theory and practice. Topics include current state and growth of direct marketing, prospecting strategies, development of hot lists, timeless strategies, and lifetime value analysis. Strategies, implementation, and public policy issues are discussed.

MKTG 441 Export Marketing **3c-0l-3cr**
Prerequisite: MKTG 320
Students conduct an export feasibility analysis of a consumer/industrial item for a foreign market. Focus is on strategic and procedural aspects of export marketing.

MKTG 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Covers advanced, innovative, or exploratory topics and disciplines within marketing. Specific content items developed by instructor. Credits may be applied to either required (by permission of department chairperson) or free electives in a student's program. Special topics numbered 481 are primarily for upper-level undergraduate students.

MKTG 482 Independent Study **var-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office. Approval is based on academic appropriateness and availability of resources.
Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of a senior faculty member.

MKTG 493 Marketing Internship **var-3-12cr**
Practical experience in the marketing field to develop knowledge and experience in the practical application of theory to actual problems in a nonclassroom situation. A maximum of 3cr of internship in the student's major may be applied toward the marketing major-area elective requirements. Additional internship credit must be used as free electives only. Admission only by permission of the department chairperson and the dean, Eberly College of Business and Information Technology.

MLSC: Military Science
Department of Military Science
Academic Affairs Division

MLSC 101 Introduction to Military Science **2c-1l-2cr**
A study of the organization of the United States Army and the role of the military in today's society. Emphasizes the customs and traditions of the service, the Total Army concept, and the fundamentals of leadership. Includes instruction in basic military skills, land navigation, and personal nutrition and fitness. Also, see Leadership Laboratory.

MLSC 102 Fundamentals of Military Science **2c-1l-2cr**
The study of the basic knowledge regarding military service and the profession of arms. Emphasizes basic military skills, first aid, and the development of leadership abilities through practical exercises. Includes instruction on offensive and defensive tactics, the Army writing style, and military briefings. Also, see Leadership Laboratory.

MLSC 203 Fundamentals of Tactical Operations, Techniques of Leadership, and Weapons Characteristics **2c-1l-2cr**
Organization, techniques, resources, and capabilities involved in conducting small-unit tactical operations. Emphasizes leadership, organization, and management techniques needed to cause a group of people to accomplish specific objectives. Characteristics of military weapons systems are taught. Students serve as leaders in Leadership Labs.

MLSC 204 National Security and Fundamentals of Military Topography **2c-1l-2cr**
The study of national security concepts, policies, and national decision-making process with emphasis on national resources, national will, and economic factors. Includes a study of nuclear and conventional response options. Fundamentals of military topography including the use of military maps to determine topographic features, to conduct land navigation, and to perform terrain analysis are covered. Also, see Leadership Laboratory.

MLSC 305 Fundamentals of Leadership and Modern Learning/Teaching Relationship **3c-1l-3cr**
A study in practical application of principles of leadership/management as applied in classroom and field to include case studies in psychological, physiological, and sociological factors which affect human behavior; individual and group solution of leadership problems common to small units. Also, see Leadership Laboratory.

MLSC 306 Study of Advance Leader Planning and Execution of Modern Combat Operations **3c-1l-3cr**
An analysis of leader's role in directing and coordinating efforts of individuals and small units in execution of offensive and defensive tactical missions, to include command and control systems, the military team, and communications techniques. Also, see Leadership Laboratory.

MLSC 407 Management of the Military Complex to Include Fundamentals of Military and International Law **3c-1l-3cr**
The study of the various managerial elements needed to effectively control a military organization and the techniques used to accomplish these functions. Studies in military law and international law prepare the students for their legal responsibilities. Also, see Leadership Laboratory.

MLSC 408 Seminar in Military Analysis and Management **3c-1l-3cr**
Contemporary analysis of use of military in world affairs to include importance of strategic mobility and neutralization of insurgent move-

ments. Selected management problems and situations are presented as they relate to military justice, administration, and obligation and responsibilities of an officer. Also, see Leadership Laboratory.

Leadership Laboratory (one afternoon per week) **var-0cr**
A practical experience designed for the attainment and application of leadership principles. Concurrently scheduled in conjunction with all Military Science courses, provides for practical challenges in personal accomplishment, both physical and mental, and for development of team work and leadership.

Summer Camp **var-0cr**
Students attend a six-week summer camp upon completion of the first year of the Advanced Course. Time at camp is devoted to practical application of principles and theories taught during the preceding school year. While at camp, each student receives lodging, subsistence, uniforms, medical care, reimbursement for travel, and pay in amount of one-half pay of second lieutenant per month.

MRSC: Marine Science
Marine Science Consortium/Biology Department
College of Natural Sciences and Mathematics

Although IUP is not currently a member institution, students may register for courses offered through the Marine Science Consortium through any participating institution. (For a complete listing of these, see *www.msconsortium.org/Welcome.htm*)

MRSC 110 Introduction to Oceanography **var-3cr**
An introduction to physical, chemical, biological, and geological aspects of oceans and methods and techniques of oceanography. Lab emphasis on at-sea assignments.

MRSC 211 Field Methods in Oceanography **var-3cr**
Prerequisite: MRSC 110 or instructor permission
A familiarization with dynamic marine environment involving use and application of oceanographic instruments and sampling devices.

MRSC 212 Navigation **var-3cr**
Prerequisite: Four years' high school math or equivalent or instructor permission
Covers navigation, i.e., the art and science of safely bringing a vessel from one position to another in a body of water. Course divided into (1) brief historical background; (2) navigation within sight of land, i.e., piloting; (3) navigation in the open sea, including electronic navigation methods.

MRSC 221 Marine Invertebrate Zoology **var-3cr**
Prerequisite: One year of Biology or instructor permission
A study of marine invertebrates with emphasis on development, reproduction, structure, function, and classification of selected marine organisms.

MRSC 241 Marine Biology **var-3cr**
Prerequisites: Botany and zoology or instructor permission
A study of plant and animal life in marine environment with emphasis on physical and chemical factors affecting biota.

MRSC 250 Management of Wetland Wildlife **var-3cr**
The ecology and management of wetland wildlife, particularly of freshwater marshes and saltwater marshes. Special emphasis on ecosystem approach.

MRSC 260 Marine Ecology **var-3cr**
Prerequisite: One year of biology or instructor permission
A course in ecology of marine organisms.

MRSC 270 Scuba Diving **var-3cr**
Prerequisites: Swimming ability and good health (a standard diving physical form will be mailed to students electing the course)
Students who complete course receive a National Association of Underwater Instructors Diver Certificate.

MRSC 280 Marine Field Biology **var-3cr**
An introduction to basic principles of ecology and natural history of selected plants and animals in terrestrial, freshwater, and marine environments. Suitable for non-Science majors.

MRSC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

MRSC 331 Chemical Oceanography **var-3cr**
Prerequisites: MRSC 110 and one year of Chemistry
Treatment of oceanic chemical phenomena by sampling and laboratory analysis techniques.

MRSC 342 Marine Botany **var-3cr**
In-the-field studies and laboratory analysis by instrumentation of marine and marine fringe plants in the Middle Atlantic Coast as exemplified by those found in the Cape Henlopen, Delaware, and Wallops Island, Virginia, areas.

MRSC 343 Marine Ichthyology **var-3cr**
Prerequisites: General Biology and/or instructor permission
A study of fishes. Specimens collected along Eastern Seaboard by students are used to illustrate anatomy, physiology, and systematics of this major vertebrate group. Field collections give student opportunity to observe relationships of these animals to the biotic and physical environment.

MRSC 344 Anatomy of Marine Chordates **var-3cr**
Prerequisites: 6cr of Biology including General Zoology
Designed to familiarize students with various aspects of marine chordates.

MRSC 345 Marine Ornithology **var-3cr**
Prerequisite: One year of Biology or instructor permission
Introduces avian fauna of seacoast and enables comparison with inland species. In addition to field work providing visual and vocal identification, lecture material includes information on distribution, behavior, physiology, and anatomy of birds.

MRSC 362 Marine Geology **var-3cr**
Prerequisites: MRSC 110 and Physical Geology or instructor permission
Studies of structural and sedimentary environments of continental shelf, slopes, and ocean basins and crustal structure of the earth and its relation to sedimentary record and geologic history of oceans.

MRSC 364 Physical Oceanography **var-3cr**
Prerequisites: MRSC 110, one year of Physics, one semester of calculus, and permission of the instructor
Includes consideration of physical properties, mass and energy budgets, theory of distribution of variables; cause, nature, measurement, analysis, and prediction of tides, currents, and waves; and basic instrumentation in the field.

MRSC 420 Marine Micropaleontology **var-3cr**
Prerequisites: One year of Geology and Biology or instructor permission
Deals with modern, living representatives of microorganisms important in fossil record with particular emphasis on taxonomy, morphology, evolution, and ecologic affinities of representative groups.

MRSC 431 Ecology of Marine Plankton **var-3cr**
Prerequisite: One year of Biology
A study of phytoplankton and zooplankton in marine and brackish environments. Qualitative and quantitative comparisons made between the planktonic populations of various types of habitats in relation to primary and secondary productivity.

MRSC 459 Coastal Geomorphology **var-3cr**
Prerequisite: One year of Geology

A study of coastal geomorphology with emphasis on Late Cenozoic and Pleistocene sea-level changes in response to worldwide continental glaciation. Participates in field studies of Pleistocene deposits and the weathering of these deposits.

MRSC 481 Special Topics **var-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

MRSC 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

MRSC 500 Problems in Marine Science **var-3cr**
Graduate students or undergraduate students with advanced standing registering for this course may elect either of the following options.
Option A: Take a 200-, 300-, or 400-level MRSC course and complete, in addition to regular course requirements, a project in the area under direction of instructor.
Option B: Complete an independent research project. A research proposal must be approved by the Academic Committee of M.S.C. in advance of the time research is to be undertaken.

MUHI: Music History
Department of Music
College of Fine Arts

MUHI 101 Introduction to Music **3c-0l-3cr**
Presumes no technical background (for nonmajors) but does utilize the varied musical experiences of each individual to help extend interest as far as possible. Attendance at various concerts of university organizations, cultural life events, and visiting artist concerts is required to augment listening experiences of students.

MUHI 102 Survey of Music Literature **3c-0l-3cr**
Prerequisite: Music major or permission from instructor
Surveys a broad spectrum of music literature and analysis. Introduces music students to a listening knowledge of a select body of music for diverse performing media, representing the historical time period of western art music as well as many nonwestern musical traditions including jazz and world music. Designed for music majors and others who have a substantial knowledge of music.

MUHI 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

MUHI 301 Music History I **3c-0l-3cr**
Prerequisites: ENGL 101, 202, HIST 195, 305
An intensive study of the history and style of Medieval, Renaissance, and Baroque music. Considerable analytical listening required.

MUHI 302 Music History II **3c-0l-3cr**
Prerequisite: MUHI 301 or permission
An intensive study of the history and styles of Classical, Romantic, and twentieth-century music to 1950. Considerable analytical listening required.

MUHI 322 Medieval and Renaissance Music **3c-0l-3cr**
An intensive study of the plainchant foundations in the early Middle Ages; the origins of polyphony; sacred and secular music of the thirteenth to the sixteenth centuries; special emphasis on Dufay, Josquin, Palestrina, and their contemporaries.

MUHI 323 The Baroque Era **3c-0l-3cr**
Prerequisites: MUHI 301, 302
Extends from Monteverdi through Bach and Handel and considers vocal and instrumental forms, styles, and practices of era.

MUHI 324 The Classical Era **3c-0l-3cr**
Prerequisites: MUHI 301, 302
A survey of music from about 1725 to about 1827, with special attention to the music of Mozart and Haydn. Consideration is given also to the works of D. Scarlatti and C.P.E. Bach.

MUHI 325 The Romantic Era **3c-0l-3cr**
A survey of music from about 1800 to 1910, with attention directed to the earlier romantic composers such as Beethoven, Schubert, Mendelssohn, and Berlioz through the later romantic composers such as Wagner, Tschaikowsky, Mahler, and Dvorak as well as others.

MUHI 420 The Twentieth Century **3c-0l-3cr**
Prerequisites: MUHI 301, 302
A survey of the stylistic trends of music from 1900 to the present, beginning with Debussy, Ravel, and other impressionists through the music of Schonberg, Stravinsky, Webern, Honegger, and Milhaud. Offered infrequently.

MUHI 421 American Music **3c-0l-3cr**
Prerequisites: MUHI 301, 302
A study of history and literature of music in America from 1600 to the present day.

MUHI 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

MUHI 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

MUSC: Music
Department of Music
College of Fine Arts

MUSC 110 Fundamentals of Theory **3c-0l-3cr**
Rudiments of musical materials; harmonic, melodic, rhythmic, and basic formal procedures of the common practice period including pitch reading, interval construction, scales, and modes.

MUSC 111 Theory Skills I **0c-3l-2cr**
Develops aural skills through dictation and interpretation of written music by sight-singing. Taken in conjunction with Theory I.

MUSC 112 Theory Skills II **0c-3l-2cr**
Prerequisite: MUSC 111 with a grade of C or better or Satisfactory
Continues development of aural skills through dictation, sight-singing, keyboard skills, and improvisation. Taken in conjunction with Theory II.

MUSC 115 Theory I **3c-0l-3cr**
The study of the harmonic, melodic, and formal devices of the common practice period, from simple diatonic chords through seventh chords.

MUSC 116 Theory II **3c-0l-3cr**
Prerequisite: MUSC 115

The study of the harmonic, melodic, and formal devices of the common practice period, from simple diatonic chords through secondary dominants. Theory II introduces basic music forms.

MUSC 120 Brass Ensemble **0c-2l-0/1cr**

MUSC 121 Chamber Singers **0c-3l-0/1cr**

MUSC 122 University Chorale **0c-3l-0/1cr**

MUSC 123 Symphony Band **0c-3l-0/1cr**

MUSC 125 Marching Band **0c-6l-0/1cr**

MUSC 126 Music Theater **0c-6l-0/1cr**

MUSC 127 Percussion Ensemble **0c-4l-0/1cr**

MUSC 129 University Symphony Orchestra **0c-5l-0/1cr**

MUSC 130 String Ensemble **0c-2l-0/1cr**

MUSC 131 University Wind Ensemble **0c-3l-0/1cr**

MUSC 132 Men's or Women's Chorus **0c-3l-0/1cr**

MUSC 133 Woodwind Ensemble **0c-2l-0/1cr**

MUSC 134 University Chorus **0c-3l-0/1cr**

MUSC 135 Jazz Ensemble **0c-3l-0/1cr**

MUSC 136 Advanced Jazz Ensemble **0c-3l-0/1cr**

MUSC 137 Piano Accompanying **var-1-1 or 0cr**
Piano accompanying may be scheduled by qualified (successful audition) pianists from the Music Department in partial fulfillment of ensemble requirements. May be repeated for credit. Pianists registered for this course will provide accompaniments for Music Department students in solo vocal or instrumental performances in area and departmental recitals and/or in voice and instrumental lessons. Registration must be approved by a designated Music Department faculty member from the piano area.

MUSC 151 Class Voice I **1c-1l-1cr**
For non-Voice and Music Education majors. Development of correct vocal production techniques through individual and group performance in class. Use of the voice as a tool for theory skills and for eventual use in the music classroom.

MUSC 152 Class Voice II **1c-1l-1cr**
A continuation of Class Voice I. Resumes development of correct vocal production techniques through performance.

MUSC 153 Class Piano I **1c-1l-1cr**
For students with no significant background in piano who need to develop functional keyboard skills. Emphasizes harmonizing melodies and playing simple accompaniments.

MUSC 154 Class Piano II **1c-1l-1cr**
A continuation of Class Piano I.

MUSC 155 Class Strings I **1c-1l-1cr**
For Music Education majors who will develop rudimentary playing techniques sufficient to initiate instruction for beginning students. Emphasizes correct playing positions and tone production for violin, viola, cello, and double bass.

MUSC 157 Class Percussion I **1c-1l-1cr**
A practical introduction to the various instruments of the percussion family. Students demonstrate correct playing techniques and develop a resource file containing information on percussion instruments and instructional materials as needed by the school music teacher.

MUSC 159 Class Brass I **1c-1l-1cr**
For Music Education majors who will demonstrate rudimentary playing techniques and tone production skills to initiate beginning instruction. Students develop playing on trumpet or French horn and trombone, euphonium, or tuba.

MUSC 161 Class Woodwinds I **1c-1l-1cr**
For Music Education majors who will acquire correct tone production and playing techniques sufficient to initiate beginning instruction. Students demonstrate skills with flute, clarinet, saxophone, and oboe or bassoon.

MUSC 163 Class Guitar I **1c-1l-1cr**
For students with no significant background in guitar who wish to develop functional playing skills. Emphasizes using the guitar as an accompanying instrument.

MUSC 211 Theory Skills III **0c-3l-2cr**
Prerequisite: MUSC 112 with a grade of C or better or Satisfactory
Further development of aural skills through dictation, sight singing, keyboard skills, and improvisation. Taken in conjunction with Theory III.

MUSC 212 Theory Skills IV **0c-3l-2cr**
Prerequisites: MUSC 211 and 154 or APMU 151, with a grade of C or better or Satisfactory
Culmination of the development of aural and keyboard skills including sight-reading, performance, and improvisation. Taken in conjunction with Theory IV.

MUSC 215 Theory III **3c-0l-3cr**
Prerequisites: MUSC 115, 116
An extension of the techniques of the eighteenth and nineteenth centuries to include modulation, altered chords, more advanced musical forms, and contrapuntal procedures.

MUSC 216 Theory IV **3c-0l-3cr**
Prerequisites: MUSC 115, 116, 215
An extension of the techniques of the eighteenth and nineteenth centuries to include modulation, altered chords, more advanced musical forms, and contrapuntal procedures. Theory IV concentrates largely on music and materials of the present century.

MUSC 217 Keyboard Harmony I **1c-1l-1cr**
Prerequisite: Nominal facility at keyboard
Designed to develop keyboard skills so the student may realize and produce in sound basic harmonic progressions.

MUSC 218 Keyboard Harmony II **1c-1l-1cr**
Prerequisite: MUSC 217
A continuation of Keyboard Harmony I, involving chromatic harmony and more complex progressions.

MUSC 224 Jazz Improvisation Techniques I **1c-.5l-1cr**
A study of the basic materials and practices for improvising or extemporaneous playing.

MUSC 225 Jazz Improvisation Techniques II **1c-0.5l-1cr**
Prerequisite: MUSC 224 or permission
A continuation of the basic materials and practices for improvising or extemporaneous playing. Makes use of more complicated and involved harmonic progressions utilizing extended chordal harmonies.

MUSC 240 Technology in the Music Classroom **2c-1l-2cr**
Introduces the technology resources available for use in the music classroom and with instructional technologies appropriate to their application in K-12 settings. Exposes a variety of media and provides the opportunity to gain familiarity in their use. Emphasizes the use of the computer in the classroom, computer-based instrument, and Musical Instrument Digital Interface (MIDI).

MUSC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content

Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

MUSC 300 Black Music in America and Diaspora **3c-0l-3cr**
Provides a survey of the body (roots) of music known as "black music" through a topical examination of selected styles, genres, and musicians. Through lecture, reading, discussion, videography, and discography, its historical, sociopolitical, philosophical, religious influences, and musical developments will also be explored. Students examine the origins of African music as well as music created in cultures of the Black Diaspora.

MUSC 304 Form and Analysis I **2c-0l-2cr**
Prerequisite: MUSC 216
A thorough study of smaller forms of music.

MUSC 306 Counterpoint I **2c-0l-2cr**
Prerequisite: MUSC 216
After study and analysis of the style of sixteenth-century contrapuntal writing, the student will do original writing using techniques and devices of period. As time permits, the same approach is made to explore style of seventeenth- and eighteenth-century composers.

MUSC 309 Orchestration I **2c-0l-2cr**
Prerequisite: MUSC 216
All instruments of orchestra are studied from the viewpoint of their contribution to the total sound of ensemble. Ranges and timbres are considered, as well as actual arranging of selected music.

MUSC 311 Fundamentals of Conducting **3c-0l-2cr**
Emphasizes fundamental physical skills of conducting process; various beat patterns are mastered and elementary score reading and interpretation are considered.

MUSC 312 Choral Conducting **3c-0l-2cr**
Prerequisite: MUSC 311
An opportunity to apply basic conducting techniques to choral music. Each student conducts the class in standard choral works. Includes survey of suitable literature, organizational problems, voice testing, rehearsal techniques, program building, interpretation, and diction.

MUSC 313 Instrumental Conducting **3c-0l-2cr**
Prerequisite: MUSC 311
An opportunity to apply basic conducting skills to various instrumental ensembles. Includes survey of suitable literature, organizational problems, audition procedures, rehearsal techniques, program building, and interpretation.

MUSC 315 Theory V **3c-0l-3cr**
Prerequisite: MUSC 216
Many of harmonic idioms of past half-century are considered, such as comparative analysis of dissonance; polytonality, polyrhythms; atonalism and 12-tone system; and microtonalism. Original writing in these styles required.

MUSC 331 Elementary Methods **2c-1l-2cr**
Prerequisite: MUSC 212
Familiarizes students with contemporary music education methods for the elementary general music classroom. Includes teaching and learning strategies for developing singing, moving, listening, creating, and playing classroom percussion, recorders, and guitar. Specific focus on child development, characteristics of special learners, curriculum planning, and diverse musical materials. Includes three classroom observations in the field.

MUSC 333 Instrumental Methods **2c-1l-2cr**
Prerequisite: MUSC 212
Familiarizes students with the instrumental music teaching process including traditional and innovative methodology; development of beliefs and values; communication, motivation, and reinforcement; curriculum development, planning, modeling, sequencing, and assessment; recruiting and retention; teaching techniques for rehearsals for the art of lesson giving and for confronting the main issues of rhythm and intonation; development of aural/visual discrimination skills, improvisation; aptitude tests and testing; classroom control; literature; and equipment

MUSC 335 Music for Students with Disabilities in Inclusive Settings **1c-1l-1cr**
Prerequisites: Admission to teacher certification
Corequisite: EDUC 242 Section 52
Develops music education skills, techniques, and materials for students with disabilities and special needs within the music classroom setting. Legal rights of students with special needs are stressed with regard to opportunities to participate in music activities and ensembles. This course must be elected concurrently with EDUC 242. Includes field experiences in the music classroom during the EDUC 242 observation period.

MUSC 337 General/Choral Methods **2c-1l-2cr**
Prerequisite: MUSC 212
A pedagogical overview of music methods related to general and choral music curricula for the middle school, junior high, and high school. Emphasizes the complex factors of adolescent behavior and physiology, administrative issues, performance expectations, and conceptually based learning which influence music teaching at this level.

MUSC 340 Woodwind Instrument Repair **0c-2l-2cr**
Prerequisites: MUSC 133, teacher certification
For students preparing for teaching careers in instrumental music. Instruction is conducted in a laboratory setting and includes development of the diagnostic and repair skills necessary to deal with the problems most frequently encountered in a public school classroom on the clarinet, flute, and saxophone.

MUSC 351 Italian Diction and Literature **1c-1l-1cr**
A laboratory course in Italian diction for first-semester voice majors. Meets for two hours per week. Emphasizes pronunciation for the stage and the International Phonetic Alphabet. Students demonstrate skills by singing Italian solo song literature and operatic repertoire of the seventeenth and eighteenth centuries.

MUSC 353 French Diction and Literature **1c-1l-1cr**
A laboratory course in French diction for third- or fourth-semester voice majors. Meets for two hours per week. Emphasizes pronunciation for the stage and the International Phonetic Alphabet. Students demonstrate skills by singing French solo song literature and operatic repertoire.

MUSC 354 German Diction and Literature **1c-1l-1cr**
A laboratory course in German diction for second-semester voice majors. Meets for two hours per week. Emphasizes pronunciation for the stage and the International Phonetic Alphabet. Students demonstrate skills by singing German solo and song literature and operatic repertoire.

MUSC 405 Piano Pedagogy **3c-0l-3cr**
Prerequisites: Junior standing in Piano and a Piano major or minor
A survey of current and significant past developments in teaching of piano, both privately and in small and large classes. The various piano methods are analyzed, compared, criticized, and adapted to each individual's use.

MUSC 406 Voice Pedagogy **3c-0l-3cr**
Prerequisites: A voice major or minor and instructor permission
A survey of current and past development in teaching of voice, both privately and in small and large classes. The various vocal methods are analyzed, compared, criticized, and adapted to each individual's use.

MUSC 408 Marching Band Techniques **2c-0l-2cr**
Considers building a band show, alignment of ranks and files; development of a standard pace of 5 to 5 and 8 to 5; selection of music; instrumentation; techniques of developing morale; and fundamentals of uniform design.

MUSC 411 Composition I **2c-0l-2cr**
Prerequisite: MUSC 216

Instruction is individualized. Compositional devices studied through analysis of works by major composers. Students write several original compositions utilizing smaller forms.

MUSC 412 Composition II **2c-0l-2cr**
Prerequisite: MUSC 411
A continuation of Composition I.

MUSC 413 Composition III **2c-0l-2cr**
Prerequisite: MUSC 412
Students write several original compositions utilizing larger forms.

MUSC 414 Composition IV **2c-0l-2cr**
Prerequisite: MUSC 413
A continuation of Composition III. Outstanding works are programmed by university performing ensembles.

MUSC 475 Music Lab **var-0cr**
All music majors must attend eight on-campus (unless preapproved) recitals and meetings per semester and all departmental recitals, as well as all recitals for their respective performance areas.

MUSC 481 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
May provide an in-depth study of a narrowly defined area of the discipline. Subject matter changes with repeated offering of the course. May be repeated for credit.

MUSC 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

MUSC 493 Internship in Music **var-1-6cr**
Designed for music majors who wish to receive practical experience working with people in music or in areas related to music.

NMDT: Nuclear Medicine Technology
Department of Nursing and Allied Health Professions
College of Health and Human Services

NMDT 427 Nuclear Scintigraphy **3c-0l-3cr**
Theoretical aspects of nuclear medicine imaging procedures, including applicable pathophysiology, technical aspects for data acquisition, and computer analysis of data. Systemic radionuclide therapy procedures are also discussed.

NMDT 428 Radiation Physics **3c-0l-3cr**
Applicable aspects of nuclear and atomic physics are covered both in theory and mathematical formulae. Theoretical topics include atomic and nuclear structure, radioactive decay, interactions with matter, and radionuclide production methods. Mathematical concepts discussed are the decay equation, equilibrium, and radiation dosimetry.

NMDT 429 Nuclear Medicine Instrumentation **2c-1l-3cr**
Covers the basic principles of both in vitro and in vivo instrumentation. The design, operation, and quality control of gas detectors and scintillation detectors are covered. Survey equipment, spectrometers, and stationary imaging devices are presented with their application to nuclear medicine. Hands-on laboratory experience with single channel analyzers and Anger cameras is included.

NMDT 430 Radiation Biology and Radiation Protection **2c-0l-2cr**
Topics include ionization and energy transfer; molecules, cellular, tissue, and organ response to radiation; acute and chronic effects of radiation; radiation protection; licensing requirements; recordkeeping; and management of clinical radiation spills.

NMDT 431 In Vivo/In Vitro NonImaging **1c-0l-1cr**
In vivo clinical nuclear medicine procedures not resulting in images as well as principles of in vitro radioassay are presented. Included are venipuncture, blood volumes, red cell studies, Schillings test, principles of immunology, various types of radioassay, and sensitivity and specificity of procedure.

NMDT 432 Radiopharmaceuticals **3c-0l-3cr**
Topics include tracer theory, pharmacological actions, localization methods, radiopharmaceutical properties, radionuclide generators, radiopharmaceutical preparations and quality control, and transient vs. secular equilibrium. Routinely used radiopharmaceuticals are discussed.

NMDT 433 Introduction to Tomographic Imaging **1c-0l-1cr**
An introduction to the basic principles of cross-sectional anatomy and tomographic imaging is presented. Topics include body planes and cross-sectional anatomy of the heart, brain, liver, and lumbar spine, as applicable to nuclear medicine, and the theory and application of both SPECT and PET imaging systems.

NMDT 434 Clinical Nuclear Medicine **0c-40l-16cr**
Prerequisites: Completion of 77cr at IUP and Phase I and NMI
Students complete 1,320 hours of supervised clinical training at an affiliate hospital. Gives instruction and participates in the performance of various clinical nuclear medicine procedures, patient care, administrative duties, radiopharmaceutical preparation and quality control, equipment quality control, quality assurance, and radiation safety. Develops both technical skills and interpersonal communication skills for incorporation into the medical community and to provide high-quality patient care. Only offered on a pass/fail basis.

NMTT: Nanomanufacturing Technology
Department of Physics
College of Natural Sciences and Mathematics

NMTT 311 Materials, Safety, and Equipment Overview for Nanofabrication **3c-2l-3cr**
Corequisite: NMTT 312
Focuses on cleanroom protocol and provides an overview of the materials, safety, and equipment issues encountered in the practice of "top down" and "bottom up" nanofabrication.

NMTT 312 Basic Nanofabrication Processes **3c-2l-3cr**
Corequisite: NMTT 311
A hands-on introduction to the processing sequences involved in "top down," "bottom up," and hybrid nanofabrication. Focuses on a step-by-step description of the processes integration needed to fabricate devices and structures.

NMTT 313 Thin Films in Nanofabrication **3c-2l-3cr**
Corequisites: NMTT 311 and 312
Provides a detailed understanding of the use and processing of thin film materials in nanofabrication. Emphasizes the understanding and operation of the state-of-the-art deposition and etching processing equipment in the PSU Nanofabrication Facility cleanrooms.

NMTT 314 Lithography and Patterning Techniques **3c-2l-3cr**
Corequisite: NMTT 311
Provides knowledge and hands-on treatment to all aspects of advanced lithography and pattern generation processes, covering topics from substrate preparation to exposure using pattern transfer equipment such as stamping and embossing, ion and e-beam, and optical contact and stepper.

NMTT 315 Materials Modifications in Nanofabrication **3c-2l-3cr**
Corequisite: NMTT 311
Provides detailed knowledge of the processing steps used in modifying material properties in nanofabrication including molecular functionalization, cross-linking, metal silicidation, material oxidation, material nitridation, barrier materials, alloying, stress control, annealing, and doping.

NMTT 316 Characterization, Packaging, and Testing of Nanofabrication Structures **3c-2l-3cr**
Corequisite: NMTT 311
Addresses the issues and examines a variety of techniques and measurements essential for testing and controlling the final device fabrication, performance, and packaging.

NURS: Nursing
Department of Nursing and Allied Health Professions
College of Health and Human Services

NURS 143 Healthy People **3c-0l-3r**
Advances knowledge of health promotion and illness prevention concepts and examines health disparities across segments of the population. The determinants of health, health status assessment, and the nation's leading health indicators will be emphasized. Students will be guided in the development of a personal wellness program.

NURS 202 Foundations of Child Health **3c-0l-3cr**
Focuses on conditions that affect the health of children. Provides an overview of the structure and function of selected body systems. Emphasizes the development of each system during infancy and childhood. The impact of common acute and chronic diseases on children is incorporated. Health promotion concepts are addressed.

NURS 211 Nursing Practice I **0c-3l-1cr**
Prerequisite: Sophomore standing
Prerequisites or Corequisites: BIOL 105, 150 or 151
The first of two clinical courses that presents the concepts and abilities fundamental to the practice of professional nursing and provides a foundation on which students can build their professional knowledge base as well as their interpersonal and psychomotor skills. Clinical assignments in a variety of settings provide opportunities for students to develop basic clinical practice skills.

NURS 212 Professional Nursing I **2c-0l-2cr**
Prerequisite: Sophomore standing
Introduces the discipline of nursing and values that are fundamental to practice. Caring as a concept central to the practice of professional nursing provides the framework for examining the values of the profession. Human diversity and the effects that culture, socioeconomics, ethnicity, and religion have on health status and response to health care are studied. An overview of the healthcare system in the United States and an examination of access issues. As a foundation for client contact in subsequent courses, students learn therapeutic communication skills and theory related to teaching and learning. Service/learning and team-building experiences are an integral component of the course

NURS 213 Nursing Practice II **0c-3l-1cr**
Prerequisites: NURS 211, 212
Corequisites: NURS 214, 236
Builds on Nursing Practice I and provides opportunities to continue to build professional knowledge and skills with diverse individuals and families in a variety of settings. Emphasizes developing ability to perform health assessments, using therapeutic communication, and executing basic nursing skills while promoting healthy behaviors.

NURS 214 Health Assessment **2c-0l-2cr**
Prerequisites: BIOL 150 or 151, NURS 211, or permission
Prerequisite or Corequisite: BIOL 150 or 151
Corequisite: NURS 213, 236, or permission
Introduces basic health assessment, which is a systematic method of data collection, organization, and validation for the purpose of determining a client's health status. Involves assessment of clients across the life span. Emphasizes assessment of client needs that affect the total person, which is consistent with nursing's holistic approach to client care. Methods of data collection used for health assessments include observing, interviewing, and examination. The student learns to apply these methods effectively in order to gather accurate and complete assessments.

NURS 236 Foundations of Nursing **3c-0l-3cr**
Prerequisites: CHEM 102, NURS 212
Corequisites: NURS 213, 214
Introduces fundamental nursing concepts that apply to the practice of professional nursing with individuals. Topics include nursing theories related to professional practice, elements of holistic care, promotion of psychosocial and physiologic health, and application of pharmacology in nursing practice.

NURS 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

NURS 306 Problem Solving in Nursing **3c-0l-3cr**
Provides opportunities to recognize and develop intervention strategies for problem solving in clinical nursing situations. Emphasizes developing application and analysis skills required for success in the nursing program.

NURS 312 Professional Nursing II **2c-0l-2cr**
Prerequisite: NURS 212 or permission
Corequisite: NURS 337 or 339 or permission
Provides a working knowledge of the values, code of ethics, ethical principles, professional standards, and legal framework that govern clinical decisions, determine professional conduct, and guide interactions with clients, families, colleagues, and other health care providers. Students formulate an ethical decision-making framework that, by incorporating personal values, professional values, moral concepts, and legal mandates, serves as a guide to professional practice. Using a problem-based approach, students study legal and ethical frameworks that guide professional practice and relate/apply these to actual clinical situations.

NURS 316 Research Utilization in Nursing **3c-0l-3cr**
Prerequisite: NURS 236 or permission
Prerequisites or Corequisites: ENGL 202, MATH 217
Focuses on understanding and critiquing nursing research. Emphasizes understanding the research process and applying research findings to practice. Students describe the various stages of the research process and apply these steps to evaluate clinical nursing research problems. Focuses on developing the necessary skills to engage in scholarly research writing.

NURS 334 Transitions in Professional Nursing **3c-0l-3cr**
Prerequisite or Corequisite: ENGL 202
Corequisite: Licensed Practical Nurse or Registered Nurse
Explores the dynamic nature of health and its impact on the practice of nursing. Nursing theories, concepts, and issues related to nursing practice are analyzed. Linkages among theory, research, and practice are explored for relevance and utility. Writing-intensive course.

NURS 336 Adult Health I **4c-0l-4cr**
Prerequisites: FDNT 212, NURS 236, or permission
Prerequisite or Corequisite: NURS 316
Corequisite: NURS 337
Introduces disease processes and treatment regimens and examines their impact on adults throughout their life span. Emphasizes increasing student knowledge about assessing human responses to changes in health, determining appropriate nursing interventions, and identifying the physiological and psychosocial basis for nursing actions.

NURS 337 Adult Health Clinical I **0c-15l-5cr**
Prerequisites: FDNT 212, NURS 236, or permission
Prerequisite or Corequisite: NURS 316
Corequisite: NURS 336
Provides opportunities to apply the nursing process with adults and aging families in a variety of settings. Emphasizes increasing the student's ability to perform comprehensive health assessments and to use assessment data to identify problems, intervene, and evaluate care. Students function as members of the health care team, identify discharge-planning needs, and

differentiate between collaborative and independent nursing activities. Service learning is a component of the course.

NURS 338 Maternal-Child Health **4c-0l-4cr**
Prerequisites: FDNT 212, NURS 236, PSYC 310, or permission
Prerequisite or Corequisite: NURS 316
Corequisite: NURS 339
Focuses on knowledge essential to provide nursing care for pregnant women and their children within a family context. The first half of the course emphasizes the changes experienced by the woman and family during normal and complicated pregnancy as well as those of the developing fetus and neonate. The second half focuses on acute and chronic health problems of infants, children, and adolescents.

NURS 339 Maternal-Child Health Clinical **0c-15l-5cr**
Prerequisites: FDNT 212, NURS 236, PSYC 310, or permission
Prerequisite or Corequisite: NURS 316
Corequisite: NURS 338
Provides clinical learning experiences designed to enable students to provide nursing care for primary prevention/intervention with child-bearing families and with children and secondary prevention with women, children, and their families. These experiences are planned in a variety of ambulatory, community, and acute-care settings to enable the student to develop core values, knowledge, competencies, and skills associated with nursing care of mothers, children, and their families.

NURS 407 Skills for Professional Success **1c-0l-1cr**
Prerequisite: Must be enrolled in senior-level nursing courses
A 1cr elective for senior nursing majors designed to help students foster clinical judgment skills by focusing on critical thinking and test-taking. Emphasizes preparing students with the skills that are essential for success on the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

NURS 411 Advanced Health Assessment **2c-3l-3cr**
Prerequisites: Registered Nurse or permission
This clinical course builds upon the basic assessment techniques of the registered nurse. Provides the student with the ability to assess the health status of adults. Enables the student to collect a comprehensive health history and perform complete physical examination on adults from various backgrounds. Focuses on examination techniques and identification of deviations from normal.

NURS 412 Professional Nursing III **2c-0l-2cr**
Prerequisites: NURS 312, 337, 339 or permission
Corequisites: NURS 432, 434, and 435 or 436 and 437, or permission
The professional nurse is expected to use clinical, managerial, and personal leadership skills to ensure the delivery of high-quality, cost-effective care in divergent health care delivery systems. The study of leadership and management skills and processes are approached as inherent elements for all levels of nursing practice. The role of designer/manager/coordinator of care in professional nursing is examined in depth.

NURS 432 Psychiatric/Mental Health **2c-0l-2cr**
Prerequisites: NURS 336, 337, 338, 339 or permission
Prerequisites or Corequisites: NURS 412, 434, 435
Focuses on the principles and concepts that guide nursing practice in a variety of psychiatric/mental health settings. The role of the nurse in primary, secondary, and tertiary prevention/intervention is addressed as it relates to individuals, families, and aggregates.

NURS 434 Community Health **2c-0l-2cr**
Prerequisites: NURS 336, 337, 338, 339 or permission
Prerequisites or Corequisites: NURS 412, 432, 435 or permission
Focuses on nursing care that is population and community oriented. Emphasizes the community as a client, perspectives and influences of the health care delivery systems, theoretical frameworks applicable to community health, contemporary issues in community health nursing, and nursing roles as designers, managers, and coordinators of care in the community.

NURS 435 Community and Psychiatric/Mental Health Clinical **0c-15l-5cr**
Prerequisites: NURS 336, 337, 338, 339 or permission
Prerequisite or Corequisite: NURS 412, 432, 434
Focuses on community-based and community health nursing experiences to enable students to provide health promotion, risk reduction, and disease prevention in a wide variety of community settings and with diverse populations. Students also have experiences within acute and community-based psychiatric care facilities, working as members of a multidisciplinary team to provide primary, secondary, and tertiary prevention/intervention. Emphases are also on nursing management and development of nursing strategies to assist at-risk families, aggregates, and groups, while considering health care on a continuum throughout the life span. Opportunities for individual mentoring in a clinical area is an integral part of the course.

NURS 436 Adult Health II **4c-0l-4cr**
Prerequisites: NURS 336, 337, 338, 339 or permission
Prerequisite or Corequisite: NURS 412
Corequisite: NURS 437
Builds on Adult Health I, focusing on the adult/family coping with complex health problems. The relationships among disease states, treatment, and associated nursing responsibilities are emphasized as students build their knowledge base of pharmacology, therapeutic procedures, rehabilitation needs, and teaching-learning strategies. Principles underlying the use of technology in clinical practice provide a basis for the concurrent clinical course.

NURS 437 Adult Health Clinical II **0c-15l-5cr**
Prerequisites: NURS 336, 337, 338, 339 or permission
Corequisite: NURS 436
Prerequisite or Corequisite: NURS 412
Provides opportunities for clinical practice as a provider of care for complex, acutely ill clients in a variety of settings including intensive care unit, monitored units, medical-surgical units, and rehabilitation settings. Focuses on secondary prevention/intervention for long-term critically ill patients. Emphasizes the role of designer/manager/coordinator of care with opportunities to apply management principles and practice leadership skills in the acute care and rehabilitation setting. Opportunities to receive preceptoring with a Registered Nurse are an integral component of the course.

NURS 450 A Cognitive Approach to Clinical Problem Solving **3c-0l-3cr**
Prerequisite: NURS 435 or 437
Focuses on advanced clinical problem-solving and decision-making skills needed by professional nurses. Factors that influence clinical problem solving are examined to facilitate higher-level thinking in simulated clinical situations.

NURS 454 Health Promotion of Families Across the Lifespan **3c-0l-3cr**
Prerequisite: NURS 334
The first part focuses on the underlying theories and frameworks for family structure, function, and assessment. The second part focuses on application and evaluation of families in the context of health promotion. The family is studied across the life span. Emphasizes family assessment and cultural diversity and the stressors that impact families during the various stages of life. Students are required to conduct a family assessment in the community.

NURS 455 Introduction to Nursing Informatics **3c-0l-3cr**
Prerequisite: Registered Nurse or instructor permission
An introduction and overview in the application of the disciplines of nursing science, computer science, and information science in collecting, processing, and managing information to promote decision making in nursing.

NURS 467 Leadership Practicum **0c-6l-2cr**
Prerequisite: NURS 334
Prerequisite or Corequisite: NURS 412
Focuses on role development in management and leadership for the Registered Nurse. Planned individualized experiences will afford the Registered

Nurse student opportunities to apply management and leadership theories in a workplace setting. The faculty members will guide the student in theory-based practice and synthesis of theory to practice experiences.

NURS 469 Community Health Practicum **0c-6l-2cr**
Prerequisite: NURS 334
Prerequisite or Corequisite: NURS 434
Allows the Registered Nurse to apply knowledge to the practice of community-based and community health nursing. Emphasizes health promotion, risk reduction, and disease prevention in a wide variety of community settings and with diverse populations.

NURS 480 Seminar in Nursing **var-1-3cr**
A seminar which provides a forum for the exploration and discussion of issues relevant to the professional nurse. Emphasizes the development of professional values, critical thinking, decision-making, and communication skills. A selection of topics on current issues and trends is offered; each focuses on a particular theme related to nursing practice.

NURS 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

NURS 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

NURS 493 Internship **var-1-12cr**
Prerequisites: NURS 236 or Licensed Practical Nurse or Registered Nurse; 57cr completed; minimum 2.0 GPA
A supervised experience in a practice setting which extends and complements coursework in nursing. The types of practice settings may include acute care hospitals, outpatient health centers, and community agencies.

PHIL: Philosophy
Department of Philosophy
College of Humanities and Social Sciences

PHIL 101 Informal Logic: Methods of Critical Thinking **3c-0l-3cr**
Develops ability to analyze critically deductive and inductive argumentation, rhetoric, and persuasion, by examples drawn from media, textbooks, advertising, scholarly works, personal contacts, etc.

PHIL 120 Introduction to Philosophy **3c-0l-3cr**
Acquaints the beginning student with philosophical problems and methods in such areas as metaphysics, epistemology, logic, and value theory.

PHIL 221 Symbolic Logic I **3c-0l-3cr**
An introduction to fundamental concepts in deductive logic with an emphasis on teaching the basis of clear logical thought. Some of the historical origins of logical theory are explored. Learn to symbolize arguments in the truth-functional logic and the predicate logic. Ways of testing arguments for validity as well as proofs are covered, with a stressing of application to actual arguments drawn from numerous sources in the media, philosophical issues, and moral problems.

PHIL 222 Ethics **3c-0l-3cr**
An investigation of efforts to rationally justify moral judgment. Deals with fundamental issues such as: What is morality? Are moral notions cultural, rational, divine, or innate in origin? Are they relative or absolute? Are they freely chosen or determined by genetics and/or environment? Covers a variety of ethical theories significant both historically and contemporarily and applies those theories to current issues which involve moral dilemmas.

PHIL 223 Philosophy of Art **3c-0l-3cr**
Investigates some of the major problems in the philosophy of art, e.g., the nature of beauty and the aesthetic experience, the ethics and politics of art, creativity, the nature of the work of art and aesthetic objects, the concept of fine art, and the evaluation of works of art and aesthetic objects.

PHIL 232 Philosophical Perspectives on Love, Marriage, and Divorce **3c-0l-3cr**
Examines the philosophical foundations of contemporary Western institutions and ideologies of romantic love. Considers major positions in both the history of philosophy and contemporary philosophy. Investigates the concepts, problems, and philosophical theories central to understanding romantic love, marriage, and divorce.

PHIL 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

PHIL 321 Symbolic Logic II **3c-0l-3cr**
Prerequisite: PHIL 221
Reviews sentential and predicate logic as presented in PHIL 221. Metalogical results concerning relations between derivability and entailment are studied in detail. Techniques and results important for mathematics computer science are highlighted. May explore modal logic or non-classical sentential logics.

PHIL 323 Political Philosophy **3c-0l-3cr**
An inquiry into the philosophical concepts underlying the major political theories from ancient Greece to the modern era. Emphasizes major authors and texts to demonstrate a continuum of ideas and their modifications, replacement, and revival, as well as novel political ideas. Possible topics: commonalty; peace; internationalism; sovereignty; nature of the state; law; the ruler; cosmopolitanism; nationalism; social contract; liberty; obligation; property; racism; sexism; slavery.

PHIL 324 Ancient Philosophy **3c-0l-3cr**
Explores the foundations of Western Philosophy through examination of important philosophers of the Ancient period, such as the Pre-Socratic philosophers, Socrates, Plato, and Aristotle. Topics may include the nature of the physical universe, Plato's theory of Forms, the nature of happiness, and the possibility of morality.

PHIL 325 Modern Philosophy **3c-0l-3cr**
A study of exemplary philosophical texts from the late sixteenth through the late eighteenth century. Figures may include Descartes, Hobbes, Locke, Spinoza, Berkeley, Leibniz, Hume, and Kant. Explores such topics as the nature of matter and mind, the possibility and limits of knowledge, and the emerging scientific challenge to church and ancient authority.

PHIL 326 Phenomenology and Existentialism **3c-0l-3cr**
A study of the phenomenological method as developed by Edmund Husserl and of the subsequent phenomenological movement as exemplified in the works of such representative figures as Heidegger, Merleau-Ponty, and Paul Ricoeur and of existentialism both as an independent movement of thought and as influenced by phenomenology and exemplified in the works of such representative figures as Kierkegaard, Jaspers, Marcel, Buber, and Sartre.

PHIL 330 Philosophy of Science **3c-0l-3cr**
An investigation into the nature of formal and empirical sciences: structure of scientific thought and its dependence upon or independence of theory; the logical and metaphysical status of scientific laws and theoretical concepts; reductionism in science; the concept of causality; the logic of explanation; problems in confirmation theory; science and value. No special background required. Recommended for math and science majors.

PHIL 400 Ethics and Public Policy 3c-0l-3cr
An analysis of the ethical dimension of public policies. Provides a general understanding of ethical theories, then focuses on their application to specific policy issues. Topics vary from semester to semester. See current schedule of classes.

PHIL 405 Justice and Human Rights 3c-0l-3cr
An introduction to theories of justice and an analysis of the concept of human rights which is central to a just society and to much moral, political, and legal dispute. Explores relevant major positions in the history of philosophy, but major focus is contemporary and raises issues such as women's rights, black rights, animal and environmental rights, welfare rights, and rights to life (or death).

PHIL 410 Contemporary Analytic Philosophy 3c-0l-3cr
Examines Anglo-American philosophy from the early twentieth century onward. Explores early attempts to solve traditional philosophical problems with newly developed methods of logical and linguistic analysis, and also later challenges to such attempts. Authors may include Frege, Russell, Moore, Wittgenstein, Ayer, Austin, Quine, Davidson, Strawson, and Sellars.

PHIL 420 Metaphysics 3c-0l-3cr
Explores the nature of reality through investigation of such concepts as substance, cause, freedom, and God. Draws on both historical and contemporary writings. Other topics may include the nature of space and time, the role of language in comprehending reality, the possibility of non-sensory knowledge, and the nature of possibility and necessity.

PHIL 421 Theory of Knowledge 3c-0l-3cr
Examines various views concerning the nature of knowledge, belief, and justification. Readings drawn from a wide range of historical and contemporary authors. Additional topics may include perceptual knowledge, common sense, skepticism, and the relation between a knower and the community.

PHIL 450 Philosophy of Law 3c-0l-3cr
An examination of the nature of law and its relationship to such questions as morality, obligation, judicial review, justice, rights, punishment, liberty. Combines philosophical theory with consideration of selected court cases to develop a philosophical and legal understanding of law and its place in society.

PHIL 460 Philosophy of Language 3c-0l-3cr
An investigation of issues in the philosophy of language and related issues in linguistics (including anthropological linguistics, sociolinguistics, and psycholinguistics). Topics include, for example, the influence of language on perception, rationalist/empiricist perspectives on language acquisition, language and political control, reference, meaning, and truth.

PHIL 480 Honors Seminar in Philosophy 3c-0l-3cr
Prerequisites: Philosophy honors students or instructor permission.
Provides an advanced forum for detailed exploration of a single topic or single author, subject to instructor's choice. Enrollment limited to students designated as candidates for honors, to members of the Honors College who satisfy any additional prerequisites set by instructor, and other Philosophy majors by invitation or permission.

PHIL 481 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

PHIL 482 Independent Study var-1-6cr
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources. May be taken more than once to a maximum of 6cr. (This option is available to both philosophy majors and nonmajors.)

PHIL 483 Honors Thesis var-1-6cr
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

PHIL 493 Internship in Philosophy var-3-6cr
Prerequisites: Permission of the department, junior or senior PHIL major or double major, 2.5 GPA
A supervised experience of no longer than one semester and no less than five weeks. This would take place in either a public or private organization in areas that either extend and develop or complement coursework in Philosophy. Log and/or major paper required. Internships are to be done with a clear analysis, argumentation, and examination of governing principles.

PHYS: Physics
Department of Physics
College of Natural Sciences and Mathematics

PHYS 100 Prelude to Physics 3c-0l-3cr
Prerequisite: MATH 100 or equivalent high school preparation
Prepares students for their first course in quantitative physics by reviewing fundamental concepts involving measurement and error, graphing, motion, and applications of Newton's Laws in developing problem-solving skills. Also presents a historical perspective as well as introduces the many opportunities that exist for those with a background in Physics.

PHYS 101 Energy and Our Environment 3c-0l-3cr
An overview of the areas of energy, transportation, and pollution. These topics are approached via the relevant concepts of physical science and physics. A nonlaboratory course for Liberal Studies requirements.

PHYS 105 The Physics of Light and Sound 3c-0l-3cr
The study of light and sound as applied in the production of objects of art and the production of music. Includes the study of vision, light in nature, photography, and artistic media and the study of hearing, musical sound, musical instruments, and room acoustics.

PHYS 111 Physics I Lecture 3c-0l-3cr
Prerequisites: Elementary algebra and trigonometry
General college physics; mechanics, wave motion, and sound.

PHYS 112 Physics II Lecture 3c-0l-3cr
Prerequisite: PHYS 111
Electricity and magnetism, heat, light, atomic and nuclear physics, and an elementary introduction to relativity and quantum theory.

PHYS 115 Physics I for Electro-Optics 2c-3l-3cr
Prerequisite: PHYS 100
Corequisite or Prerequisite: MATH 110 or 121
Introduces the mechanical universe through the study of the motion of matter and waves and the causes of waves. The learning of quantitative problem solving skills is emphasized. Includes a lab component.

PHYS 116 Physics II for Electro-Optics 2c-3l-3cr
Prerequisite: PHYS 115
By applying Newton's Laws of Motion to atoms and molecules, introduces the basic principles of and connections between temperature, heat, and molecular motion at a fundamental level. Concepts involved in fluid flow, electric charge, and the origin of magnetism are covered. The fundamental basis for the existence of electric and magnetic fields and the generation of electromagnetic energy as waves are explored. Includes a lab component.

PHYS 121 Physics I Lab 0c-3l-1cr
Corequisite: PHYS 111
Physics laboratory at level of Physics I; exercises in mechanics, wave motion, and sound.

PHYS 122 Physics II Lab **0c-3l-1cr**
Corequisite: PHYS 112
Physics laboratory at level of Physics II; exercises in optics, electricity and magnetism, and radioactivity.

PHYS 131 Physics I-C Lecture **3c-0l-3cr**
Prerequisite: MATH 121, 123, or 127, at least concurrently
A calculus-based course in general college physics; topics covered are similar to those covered in Physics 111 but are treated in more depth through the use of calculus.

PHYS 132 Physics II-C Lecture **3c-0l-3cr**
Prerequisite: MATH 122, 124, or 128, at least concurrently
A continuation of Physics I-C; topics covered are similar to those covered in Physics II but are treated in more depth through the use of the calculus.

PHYS 141 Physics I-C Lab **0c-3l-1cr**
Corequisite: PHYS 131
Physics laboratory at same level as Physics I-C; exercises in mechanics, wave motion, and sound.

PHYS 142 Physics II-C Lab **0c-3l-1cr**
Corequisite: PHYS 132
Physics laboratory at same level as Physics II-C; exercises in optics, electricity and magnetism, and radioactivity.

PHYS 151 Medical Physics Lecture **3c-0l-3cr**
Development of concepts and principles of physics with a strong emphasis as to their use and application in medical and other biophysical areas.

PHYS 161 Medical Physics Lab **0c-3l-1cr**
Corequisite: PHYS 151
Experiments dealing with applications of physical principles to the field of medicine. Practical experience with use of electronic equipment, chart recorders, etc., of type found in modern-day medicine will be introduced

PHYS 222 Mechanics I **2c-0l-2cr**
Prerequisites: PHYS 112 or 116 or 132; MATH 122 or 124
Covers the basic laws and concepts of the mechanical universe. The dynamics of a particle in one, two, and three dimensions are covered. Central forces, including planetary and satellite motion, are discussed and analyzed in detail using Newton's gravitational law. Other topics covered are statics, multiple particle system dynamics, mechanical energy, and oscillations.

PHYS 223 Mechanics II **2c-0l-2cr**
Prerequisites: MATH 241, PHYS 222
Mechanics of a rigid body, constraints, oscillations, wave motion, introduction to Lagrangian and Hamiltonian formulation and relativistic mechanics.

PHYS 231 Electronics **3c-3l-4cr**
Prerequisites: MATH 122, 124, or 128, PHYS 112 or 132
Circuit theory, transients, transistor circuits, frequency response, input and output impedance, feedback and electronic noise. Operational amplifiers and digital electronics.

PHYS 242 Optics **3c-0l-3cr**
Prerequisites: MATH 122, 124, or 128; PHYS 112 or 132
Geometrical optics and physical optics; including interference, diffraction, and polarization. Quantum optics is introduced.

PHYS 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

PHYS 299 Cooperative Education I **var-1-3cr**
Prerequisites: PHYS 132; completion of 30cr with a minimum 2.0 GPA and approval of the cooperative education coordinator
Blends classroom theory with practical application through job-related experience. Students work in positions offered by the participating industrial or federal/state work-study program employers under joint supervision of the Physics faculty and the on-site supervisor. A co-op student must be a full-time university student in good academic standing and be planning to return to campus for completion of his/her degree program. Evaluation requirements may include on-site visitations by the faculty/coordinator, consultation with the on-site supervisor, and a major progress report by the student or the presentation of a detailed oral report before the departmental cooperative education committee.

PHYS 322 Electricity and Magnetism I **2c-0l-2cr**
Prerequisite: PHYS 222
Electrostatic potential theory, dielectrics, dipole theory, magnetostatics, Maxwell equations for static fields, and Legendre's polynomials and other approximation methods.

PHYS 323 Electricity and Magnetism II **2c-0l-2cr**
Prerequisite: PHYS 322
Time-dependent form of Maxwell equations, electromagnetic induction, vector potential, magnetism, radiation fields, and Poynting vector

PHYS 331 Modern Physics **3c-0l-3cr**
Prerequisite: PHYS 112 or 116 or 132; MATH 122 or 124
The history of modern physics is covered. Particle and wave properties of matter are explored using the ideas of quantum mechanics. Systems examined using the ideas of quantum and classical mechanics are atomic structure, solid state, and nuclear physics. The special theory of relativity will also be covered. Some of the problems are solved using computers.

PHYS 342 Thermal and Statistical Physics **3c-0l-3cr**
Prerequisites: MATH 122, 124, or 128; PHYS 112 or 132
Thermometry, laws of thermodynamics, low-temperature physics, entropy, properties of ideal gas, and an introduction to statistical mechanics.

PHYS 350 Intermediate Experimental Physics I **0c-6l-3cr**
Prerequisites: PHYS 331; PHYS 242 or EOPT 120
Performs required fundamental experiments in areas of mechanics, optics, modern physics, and heat. Speaking before other classmates and faculty and competence in writing scientific papers and reports is emphasized. Effectiveness in the collection of data is important. Computers will often be utilized to perform data taking and analysis.

PHYS 351 Intermediate Experimental Physics II **0c-6l-3cr**
Prerequisite: PHYS 350
Increasingly sophisticated experiments in essential areas of physics. Digital computers and the Van de Graaff are available.

PHYS 352 Applied Physics Laboratory **0c-6l-3cr**
Prerequisites: PHYS 231, 355, or instructor permission
An introduction to much of the fundamental equipment used in industry. Trains in the operation and proper use of this equipment through a series of experiments that teach him/her signal detection and analysis including data acquisition by computer. Provides instruction on the proper methods to be used for various oral and written presentations.

PHYS 353 Solid State Electronics Laboratory **0c-6l-3cr**
Prerequisite: PHYS 352 or instructor permission
Encounters a number of areas of current interest in semiconductor technology. Performs experiments and learns skills in such areas as device process simulation, device simulation, measurements of semiconductor materials, and measurement of device parameters. Also instructed in the proper presentation of written and oral reports.

PHYS 355 Computer Interfacing **2c-2l-3cr**
Prerequisite: COSC110
Teaches the fundamentals of interfacing the personal computer to its physical surroundings. Teaches how to collect data and to control experiments in real time. Shows how to use digital to analog conversion (DAC) techniques and analog to digital conversion (ADC) techniques. A graphical

software package (such as LabVIEW) is also used to design icon-based interfacing tools, to learn how to use virtual instruments, and to analyze data.

PHYS 399 Cooperative Education II **var-1-3cr**
Prerequisites: PHYS 299; PHYS 350; completion of 80cr with a minimum 2.5 GPA and approval of the cooperative education coordinator
A second course in cooperative education. Includes instruction that builds upon learning experiences in college by combining and correlating them with learning experiences at the training station to meet the student's career goals. Evaluation requirements may include on-site visitations by the faculty/coordinator, consultation with the on-site supervisor, and a major progress report by the student or the presentation of a detailed oral report before the departmental cooperative education committee. No more than 3cr of PHYS 299, 399, and/or 493 may be used in fulfilling Physics major course requirements.

PHYS 432 Advanced Electronics **2c-3l-3cr**
Prerequisite: PHYS 231
Digital measurement, switching circuits, logic circuits, counting, coding, input and output, AD and DA converters, computer organization.

PHYS 472 Nuclear Physics **3c-0l-3cr**
Prerequisite: PHYS 331
A survey of nuclear physics, nuclear size, nuclear mass, reaction theory, types of radioactive decay, nuclear models, nuclear forces, and elementary particles.

PHYS 473 Quantum Mechanics I **4c-0l-4cr**
Prerequisites: PHYS 222 and 331
Quantum mechanics following methods of Schrodinger and Heisenberg; the theory is applied to properties of harmonic oscillator, hydrogen atom, electron in a magnetic field, and radioactive decay of alpha particles.

PHYS 475 Physics of Semiconductor Devices I **3c-0l-3cr**
Prerequisites: PHYS 231, 242, 342, or instructor permission
Develops the basic foundation for a study of the theory of semiconductors. Elementary quantum concepts, the band theory of solids, electrical properties of solids, effective mass theory, and principles of semiconductor devices are discussed.

PHYS 476 Physics of Semiconductor Devices II **3c-0l-3cr**
Prerequisite: PHYS 475 or instructor permission
Discusses the physics and operation of a number of discrete devices including bipolar transistors, MOSFETS, JFETS, CCDs, various diode technologies, photovoltaic and photoconductive devices, solid-state lasers, and light-emitting diodes.

PHYS 480 Seminar **var-1cr**
Speakers from within and outside the university conduct a seminar on a weekly or biweekly basis on different topics of interest in the physics community.

PHYS 481 Special Topics in Physics **var-1-3cr**
Prerequisite: As appropriate to course content
Varies from semester to semester and covers diverse topics in specific areas of physics. This course number is also used to offer courses under development.

PHYS 482 Independent Study in Physics **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources. Work is supervised by a Physics faculty member but does not necessarily involve regular lecture or laboratory hours.

PHYS 490 Solid State Physics **3c-0l-3cr**
Prerequisites: PHYS 223 and 331
Reciprocal lattice, crystal structure, the quantization of fields to produce quasi-particles such as phonons, magnons, excitons. Fermi gas of electrons, energy bands, semiconductor crystals, and photoconductivity.

PHYS 493 Internship in Physics **var-1-3cr**
Prerequisites: PHYS 350, completion of 90cr with a minimum 2.5 GPA, and approval of the internship education coordinator
A supervised professional work-experience in physics and applied physics. Location, duties, internship, and hours are individually tailored to the student's career goals. A maximum of 3cr of internship in the student's major may be applied toward the physics major area elective requirements. Additional internship credit must be used as free electives. Evaluation requirements include on-site visitations by the faculty/coordinator, consultation with the on-site supervisor, and a major progress report by the student or the presentation of a detailed oral report before the departmental internship education committee.

PLSC: Political Science
Department of Political Science
College of Humanities and Social Sciences

PLSC 101 World Politics **3c-0l-3cr**
An analysis of contemporary (post-1945) state system and forces shaping the world in which we live. Student is given a framework within which to analyze contemporary international politics.

PLSC 111 American Politics **3c-0l-3cr**
An introduction to American national government and politics, emphasizing Constitution, party system, Congress, Presidency, courts, and problems in national-state relations, civil rights, foreign policy, and social and economic policies.

PLSC 250 Public Policy **3c-0l-3cr**
Emphasizes dynamics of government as they are evidenced in public opinion, pressure groups, political parties, and our governmental institutions; attention also directed toward the political-economical nexus within American society.

PLSC 251 State and Local Political Systems **3c-0l-3cr**
Institutions and processes of state and local governments, with special attention to Pennsylvania; emphasis on the nature of federalism, state constitutions, and role of state and local government in an urban society.

PLSC 280 Comparative Government I: Western Political Systems **3c-0l-3cr**
Analyzes Western political systems with emphasis upon major contemporary democratic governments of Europe. Analyzes and compares their political cultures, political institutions, and political processes.

PLSC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

PLSC 282 International Relations **3c-0l-3cr**
Provides a conceptual framework for understanding sovereignty, nationalism, power, security, dispute settlement, and diplomatic, legal, economic, and military relations of nation-states.

PLSC 283 American Foreign Policy **3c-0l-3cr**
Examines formulation and execution of American foreign policy, with attention to governmental institutions, mass media, interest groups, and public opinion; emphasizes contemporary problems.

PLSC 285 Comparative Government II: Non-Western Political Systems **3c-0l-3cr**
Analyzes major non-Western political systems with emphasis upon authoritarian and totalitarian systems. Analyzes and compares in a

systematic manner their political cultures, political institutions, and political processes.

PLSC 300 Research Methods in Political Science **3c-0l-3cr**
Prerequisite: PLSC 101 or 111
An examination of the application of the scientific approach to the investigation of social and political phenomena. Concentrates on approaches, methods, and computer tools. All political science majors and minors are strongly urged to enroll.

PLSC 320 International Law **3c-0l-3cr**
Prerequisites: PLSC 101, 281, or instructor permission
The study of the development, nature, and function of international law, including recent trends.

PLSC 321 International Organizations **3c-0l-3cr**
Prerequisites: PLSC 101, 281, or instructor permission
An inquiry into purposes, structures, and actions of contemporary international political organizations, such as United Nations, regional, and functional organizations.

PLSC 346 Political Sociology **3c-0l-3cr**
Prerequisites: PLSC 111, SOC 151
Examines (a) who controls the state and state policy, (b) the role the state plays in stabilizing capitalism and protecting the power of the upper class, (c) the political activities of the middle and upper class, (d) labor, civil rights, welfare rights, and social movements in America. Cross-listed as SOC 458.

PLSC 350 The Presidency **3c-0l-3cr**
An examination of the Office of President, with attention to constitutional foundations, evolution, structure, powers, and functions; some comparisons between presidential and parliamentary systems and between offices of President and governor.

PLSC 351 Legislative Process **3c-0l-3cr**
A functional study of legislative bodies and process of legislation, covering organization of legislative assemblies, operation of committee system, procedures, bill drafting, aides, and controls over legislation.

PLSC 353 American Political Parties **3c-0l-3cr**
The role of people, parties, and pressure groups in politics of American democracy; attention to sectional and historical roots of national politics, voting behavior, pressure group analysis, and campaign activities.

PLSC 354 Metropolitan Problems **3c-0l-3cr**
Analyzes multiplicity of problems facing our metropolitan areas. Contemporary developments such as urban renewal, shrinking tax base, federal aid to cities, subsidized mass transit, municipal authorities, and political consolidation are examined.

PLSC 355 Intergovernmental Relations **3c-0l-3cr**
Explores characteristics of federal systems of government, with emphasis on theories, origins, institutions, problems in intergovernmental relations in the United States, federal systems in other nations, and trends.

PLSC 356 Mass Media in American Politics **3c-0l-3cr**
Variant theories of the symbolic relationship between American politics and the press are examined in the light of the American colonial-national experience. The special constitutional rights given to the media are explored, with particular attention to radio-TV

PLSC 358 Judicial Process **3c-0l-3cr**
Prerequisite: PLSC 111
Explores nature and limits of judicial power, courts as policymaking bodies, selection of judges, decision process, external forces impinging on the courts, and role of Supreme Court in its relationship with Congress, the Presidency, and federalism.

PLSC 359 Constitutional Law and Civil Liberties **3c-0l-3cr**
Prerequisite: PLSC 111
A study of civil liberties and civil rights issues through leading Supreme Court decisions; topics treated include First Amendment rights, procedural due process and the Bill of Rights, and Equal Protection problems in civil rights.

PLSC 360 Classical Political Thought **3c-0l-3cr**
Restriction: Not for credit after PHIL 323
The origins and development of Western thought from Plato and Aristotle through Cicero and Saint Aquinas. Focuses especially on political participation as a way of life, the unity of political and moral conceptions in premodern political thought, and the relationship between order and justice.

PLSC 361 Modern Political Thought **3c-0l-3cr**
Covers the major representatives of modern political thought since the Renaissance. Follows the development of the specifically modern notion of the state and political action through the works of Machiavelli, Hobbes, Locke, Rousseau, Marx, and Lenin. Emphasizes the "instrumentalist" state and the idea of a political science.

PLSC 362 American Political Thought **3c-0l-3cr**
Covers a variety of American political ideas from the Puritans through recent radical and conservative critiques of American liberal democracy. Focus on the continuing development of the idea of individual rights, the political theory of the Constitution, and the tension between classical liberalism and popular rule.

PLSC 370 Introduction to Public Administration **3c-0l-3cr**
Theories of organization and structural organization, personnel processes, executive functions, financial administration, the politics of administration, public relations, and problems of democratic control of bureaucracy.

PLSC 371 Issues in Public Administration **3c-0l-3cr**
An intensive study of the role of federal agencies and their administrators in determining and developing public policy. Public administration in practice is emphasized by utilizing case studies.

PLSC 377 Political Behavior **3c-0l-3cr**
Prerequisites: PLSC 111, PSYC 101
An interdisciplinary course which investigates the psychological bases of political behavior. Cross-listed as PSYC 377.

PLSC 380 Soviet Politics **3c-0l-3cr**
Essential features of Communist party and government of the former U.S.S.R., including geographical and historical background and ideological and theoretical foundations. PLSC 280 should be taken prior to this course. (Content is in revision to reflect changing structure)

PLSC 382-387 Political Systems **3c-0l-3cr**
Suggested Prerequisites: PLSC 280 and/or 285
An intensive, comparative study of the government and politics of a selected region. PLSC 382 Africa; PLSC 383 Asia; PLSC 384 Middle East; PLSC 385 Central and Eastern Europe; PLSC 387 Latin America

PLSC 388 Political-Military Strategy **3c-0l-3cr**
Prerequisites: PLSC 281 or 283 or MS101-102
Deals with national security problems including decision making and budgeting, levels of strategy, the utility of force, and the impact of the military on American society

PLSC 389 Developing Nations **3c-0l-3cr**
Suggested Prerequisites: PLSC 280 and/or 285
Political characteristics of emerging nations; impact of economic and social change upon political structure; evolving patterns of political development; and techniques of nation-building.

PLSC 480 Political Science Seminar **3c-0l-3cr**
Readings and written assignments on a specific topic determined by the instructor in charge.

PLSC 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content

Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

PLSC 482 Independent Study **var-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

PLSC 493 Political Science Internship **var-2-12cr**
Prerequisites: 9cr in Political Science with 2.0 GPA; PLSC 111; approval of internship director and chairperson
Practical experience in government and politics. "Log" and research project required. Course grade determined by the instructor. Maximum of 6cr applied to minimum in major; maximum of 3cr applied to minimum in minor.

PNAF: Pan-African Studies
College of Humanities and Social Sciences

PNAF 131 Introduction to Pan-African Studies **3c-0l-3cr**
A multidisciplinary introduction to Africa and the African diaspora. Explores the effects of Africa's history, in particular colonialism and independence, on present-day Africa; examines the relationship between Africa and the African diaspora with special attention to African arts, social systems, and political and economic development; looks at Africa's contribution to contemporary culture in the Americas.

PNAF 281 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are primarily for lower-level undergraduate students.

PNAF 481 Special Topics **3c-0l-3cr**
Prerequisite: Instructor permission and program coordinator
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

PNAF 482 Independent Study **var 1-to-3cr**
Prerequisite: Prior approval through advisor, faculty member, program coordinator, dean, and Provost's Office
Students with interest in an independent study of a Pan-African Studies-related topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

PSYC: Psychology
Department of Psychology
College of Natural Sciences and Mathematics

PSYC 101 General Psychology **3c-0l-3cr**
An introduction to the scientific study of behavior and mental processes.

PSYC 280 Psychological Inquiry **3c-0l-3cr**
Prerequisites: PSYC 101, Psychology minors
Introduces students minoring in Psychology to issues central to carrying out and interpreting empirical research in the field. Students become more sophisticated consumers of empirical research findings. Students who have successfully completed PSYC 290 are not permitted to take this course for credit.

PSYC 290 Research Design and Analysis I **3c-2l-4cr**
Prerequisites: MATH 217, PSYC 101
A laboratory course devoted to designing, conducting, and evaluating results of psychological experiments.

PSYC 291 Research Design and Analysis II **3c-2l-4cr**
Prerequisites: PSYC 101, grade of C or better in PSYC 290
A continuation of Research Design and Analysis I.

PSYC 310 Developmental Psychology **3c-0l-3cr**
Prerequisite: PSYC 101
A comprehensive study of all factors that contribute to human development from conception to death, particularly as they relate to psychological development of individual. A survey course directed at students not planning to take PSYC 311 or 312. Students may receive credit towards the Psychology major or minor for only one of PSYC 310, 311, or 315.

PSYC 311 Child Psychology **3c-0l-3cr**
Prerequisite: PSYC 101
The study of factors that influence total development and behavior of child. Current theories and research are considered, with focus upon optimum development of individual. Students may receive credit towards the Psychology major or minor for only one of PSYC 310, 311, or 315.

PSYC 312 Adult Development and Aging **3c-0l-3cr**
Prerequisite: PSYC 101
A survey of physiological, cognitive, emotional, and social issues affecting the young adult, the middle-aged, and the elderly. Includes an examination of significant adult life crises.

PSYC 315 Experimental Development Psychology **3c-2l-4cr**
Prerequisite: PSYC 280 or 290
Studies human development from conception to death with emphasis on the physical, cognitive, and emotional domains. Students are involved in observation and data collection. Students may receive credit towards the Psychology major or minor for only one of PSYC 310, 311, or 315.

PSYC 320 Personality **3c-0l-3cr**
Prerequisite: PSYC 101
Provides comparative analysis of major representative traditional and contemporary theories of personality.

PSYC 321 Abnormal Psychology **3c-0l-3cr**
Prerequisite: PSYC 101
The description, causes, and treatment of behaviors labeled abnormal in our society are studied from experimental and clinical points of view.

PSYC 325 Psychological Testing and Measurement **3c-2l-4cr**
Prerequisites: MATH 217 and PSYC 101, sophomore standing
Presents a series of focused discussions on principles, methods, and issues of psychological measurement. Also describes the major psychological tests currently in use and illustrates the administration and scoring of these tests. The laboratory activities are intended to provide hands-on experiences in computerized analysis and evaluation of psychological tests, to demonstrate test administration and scoring in practical settings, and to enhance the understanding of psychological testing through class projects.

PSYC 330 Social Psychology **3c-0l-3cr**
Prerequisite: PSYC 101
The study of the effects of the social environment on human behavior. Topics include perception of person, attitude formation and change, and small-group interaction. Students may not receive credit toward psychology major or minor for both PSYC 330 and 335.

PSYC 331 Environmental Psychology **3c-0l-3cr**
Prerequisite: PSYC 101
The study of the relationship between human behavior and its environmental context. Emphasizes the physical environment, both natural and built.

PSYC 335 Experimental Social Psychology **3c-2l-4cr**
Prerequisite: PSYC 280 or 290
A laboratory course in the effects of the social environment on human behavior. Topics include perception of persons, attitude formation and change, and small-group interaction. Includes experience with social

psychological research methods. May not be taken for credit by students who have completed PSYC 330.

PSYC 341 Conditioning and Learning **3c-2l-4cr**
Prerequisites: PSYC 101, 290
An examination of the basic principles of learning and related phenomena; discussion of classical conditioning, discrimination learning, and aversive control of behavior.

PSYC 342 Human Cognition: Memory and Thinking **3c-2l-4cr**
Prerequisites: PSYC 101, 290
A study of methods and findings in areas of human memory and human information processing. Students may not receive credit towards the psychology major or minor for both PSYC 342 and 345.

PSYC 345 Introduction to Human Cognition **3c-0l-3cr**
Prerequisite: PSYC 101
Provides an overview of cognitive psychology. The Information Processing Model is contrasted with its predecessor, Behaviorism, and its contemporary challenger, Connectionism. Students may not receive credit towards the psychology major or minor for both PSYC 342 and 345.

PSYC 350 Physiological Psychology **3c-2l-4cr**
Prerequisites: PSYC 101, 290
A study of the relationship between behavior and the anatomy and physiology of the nervous system. Students may not receive credit towards the Psychology major or minor for both PSYC 350 and 356.

PSYC 355 Comparative Psychology **3c-0l-3cr**
Prerequisite: PSYC 101
A survey of animal behavior patterns and control mechanisms including learning, development, communication, and social behavior. Emphasizes the relationship of the animal to its environment and on the relationship of animal models to human behavior.

PSYC 356 Biopsychology **3c-0l-3cr**
Prerequisite: PSYC 101
A study of the relationship between behavior and the anatomy and physiology of the nervous system. Students may not receive credit towards the Psychology major or minor for both PSYC 350 and 356.

PSYC 359 Sensation and Perception **3c-2l-4cr**
Prerequisite: PSYC 290
Introduces the biological and psychological processes that determine our perceptions and their relationships to physical properties of the environment. Laboratory work provides the opportunity to explore lecture and textbook topics firsthand and to collect and analyze psychophysical data.

PSYC 371 Human Motivation **3c-0l-3cr**
Prerequisite: PSYC 101
A systematic study of how behavior is initiated, sustained, directed, and terminated. Current theories in this area are critically reviewed.

PSYC 372 Drugs and Behavior **3c-0l-3cr**
Prerequisites: PSYC 101 and junior standing or permission
A survey of the current knowledge concerning the actions of drugs. Includes legal and social issues surrounding drug use, hazard potential of commonly used drugs, review of current theories and issues regarding the use of drugs in psychotherapy, and consideration of treatment approaches for addiction.

PSYC 374 Stress and Coping **3c-0l-3cr**
Prerequisite: PSYC 101
Fundamental concepts and findings in stress and stress-related disorders. Relationships of stress to disease and methods for coping with stress are presented.

PSYC 375 Mass Media and Behavior **3c-0l-3cr**
Prerequisites: PSYC 101 and junior or senior status
Theory and research on the influence of the mass media on human behavior and attitudes. Topics include the effects of news and political advertising on public opinion; the effects of racist and sexist portrayals; and the effects of violence and pornography on aggressive behavior. (Also offered as COMM 375; may not be taken for duplicate credit)

PSYC 376 Psychology of Health Behavior **3c-0l-3cr**
Prerequisite: PSYC 101
An examination of the role of behavior factors in health status with a strong focus on preventive health behaviors and the role of the psychologist in promotion of health-related behavioral changes.

PSYC 378 Psychology of Death and Dying **3c-0l-3cr**
Prerequisite: PSYC 101
Theories and research which delineate the psychological factors affecting the dying person as well as those persons close to one who is dying are discussed.

PSYC 379 Psychology of Human Sexuality **3c-0l-3cr**
Prerequisite: PSYC 101
Provides an overview of the psychological issues and research relevant to sexuality with an emphasis on gender roles. Social, psychological, and gender perspectives are used to examine a number of topics, including contemporary sexual attitudes, sexual response, sexual relationships, sexual dysfunction, sexual variations, sexual preference, and sexual violence. Research pertaining to each topic is presented. Students are encouraged to critically evaluate research and theory and to make connections between the material and their personal experience.

PSYC 390 Industrial-Organizational Psychology **3c-0l-3cr**
Prerequisites: MATH 214 or 217, PSYC 101
The study of psychological principles in work organizations; application of psychological theory to the understanding and explanation of individual behavior and experience in work organizations. May not be taken for credit by students who successfully completed PSYC 425.

PSYC 410 Historical Trends in Psychology **3c-0l-3cr**
Prerequisites: PSYC 101, junior or senior standing or permission
A comprehensive overview of historical antecedents of contemporary psychology with emphasis on their implications for future developments in the field.

PSYC 411 Psychology of Women **3c-0l-3cr**
Prerequisites: PSYC 101, junior or senior standing or instructor permission
A critical examination of the assumptions about women which are held by the discipline of psychology, considering both current research and individual experience. The psychological effects of socialization on sex role identity, achievement, interpersonal power, mental health, and critical incidents in female development are discussed in the context of relevant concepts from developmental and social psychology.

PSYC 421 Psychology of Work **3c-0l-3cr**
Prerequisites: PSYC 101, junior/senior standing
Introduces the human experience in work situations. Emphasizes the analysis, measurement, prediction, and development of human aptitude, ability, and performance in work and employment situations.

PSYC 425 Experimental Organizational Psychology **3c-2l-4cr**
Prerequisite: 12cr of PSYC (including PSYC 290), beyond PSYC 101
Introduces theory, research, and methods in the investigation of human behavior and experience in organizations. Both classical and current literature in the field are discussed. In addition to lecture, students conduct empirical research projects.

PSYC 450 Introduction to Clinical Psychology **3c-0l-3cr**
Prerequisites: PSYC 101, 320, 321, and instructor permission
An overview of clinical psychology, with emphasis on clinician's use of methods of evaluation and on treatment and modification of behavior.

PSYC 480 Honors Seminar in Psychology **3c-0l-3cr**
A seminar in the graduate tradition with a specialized topic. May be taken more than once to a maximum of 6cr

PSYC 481 Special Topics in Psychology **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students. May be taken more than once to a maximum of 6cr.

PSYC 482 Independent Study in Psychology **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Individual students pursue their particular interests in psychology in consultation with a member of the staff. May be taken more than once to a maximum of 6cr. Approval is based on academic appropriateness and availability of resources.

PSYC 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

PSYC 493 Psychological Practicum **var-1-12cr**
Prerequisites: PSYC 101 and department consent
Under supervision of psychology department, selected students receive experience in application of psychological techniques. May be taken more than once to a maximum of 12cr.

QBUS: Quantitative/Business
Department of Management Information Systems and Decision Sciences
Eberly College of Business and Information Technology

Note: Except for Accounting, Business Education, and non-business majors who have met the required prerequisites, students scheduling 300 and 400 courses are expected to have achieved junior standing as described in the Eberly College of Business and Information Technology Academic Policies.

QBUS 215 Business Statistics **3c-0l-3cr**
Prerequisites: MATH 115, 214
Expands upon the probabilistic concepts developed in MATH 214 to orient the student toward managerial decision making using quantitative methodologies. Topics include classical regression analysis, forecasting, Bayesian decision theory, linear programming, and simulation.

QBUS 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are primarily for lower-level undergraduate students.

QBUS 380 Introduction to Management Science **3c-0l-3cr**
Prerequisite: QBUS 215
Discussion and application of mathematical models used in managerial decision making. Linear programming, Markov processes, queuing theory, EOQ models, and simulation techniques are among the topics covered.

QBUS 401 Forecasting Methods for Business **3c-0l-3cr**
Prerequisite: QBUS 215
Trains to understand the nature of forecasting problems and the techniques of forecasting methods and their business applications. Computer statistical packages are incorporated into the course so that forecasting methods and models can be applied to real-world problems and the relationships that exist between variables can be examined.

QBUS 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

QBUS 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

REAL: Real Estate
Department of Finance and Legal Studies
Eberly College of Business and Information Technology

REAL 382 Real Estate Fundamentals **3c-0l-3cr**
Acquaints the student with the language, principles, and laws that govern the business of real estate. Emphasizes the underlying concepts of land, property, rights in realty, and the means, methods, and laws that govern the conveyance of these rights. Required course for taking the Pennsylvania Real Estate Sales Exam. (Offered as BLAW 382 prior to 2002-03)

REAL 383 Real Estate Practice **3c-0l-3cr**
Prerequisite: REAL 382
One of the two courses required by the Pennsylvania Real Estate Commission in order to take the Pennsylvania Real Estate Sales Licensing Exam. Topics include real estate brokerage, the real estate market, listing contracts, the Pennsylvania Real Estate Licensing and Registration Act and its rules and regulations, appraisal, property management, fair housing laws, ethical practices for real estate professionals, and real estate math. (Offered as BLAW 383 prior to 2002-03)

RESP: Respiratory Care
Department of Nursing and Allied Health Professions
College of Health and Human Services

RESP 101 The Profession of Respiratory Care **1c-0l-1cr**
Introduces the student to the health care environment and specifically the respiratory care profession. Students visit a hospital respiratory care department and observe basic respiratory patient care procedures.

RESP 326 Respiratory Care Clinical Practice I **var-3cr**
First exposure to patient care. An introduction to and practice of basic respiratory care treatment modalities.

RESP 327 Pharmacology **3c-0l-3cr**
An introduction to pharmacology and therapeutics. Emphasizes the drugs used in respiratory care. Drug classification, action, usage, dosage, and availability are discussed.

RESP 328 Introduction to Respiratory Care **4c-0l-4cr**
Topics include medical terminology and an overview of cellular structure and function. Emphasizes neurophysiology, respiratory anatomy, and physiology.

RESP 329 Respiratory Care Equipment **4c-0l-4cr**
An introduction to respiratory therapy equipment, related procedures and principles, techniques and theory of mechanical ventilation. Special emphasis is given to oxygen delivery systems and the rationale for their use.

RESP 330 Cardiopulmonary Resuscitation **2c-0l-2cr**
A comprehensive analysis of the principles and practices of numerous methods of resuscitation.

RESP 333 Respiratory Care Clinical Practice II **var-3cr**
Treatment procedures introduced in Clinical I are continued with greater emphasis on independence. Specialty rotations are added to broaden exposure to respiratory care and critical care.

RESP 334 Respiratory Care Instrumentation and Application **4c-0l-4cr**
Provides a comprehensive knowledge of mechanical ventilation. The care of critically ill and physiologic consequences of mechanical ventilation will be discussed.

RESP 335 Patient Care Skills **3c-0l-3cr**
An overview of the history of respiratory care and nursing. Topics include medical records, infection control, sterilization, and psychosocial aspects of illness.

RESP 336 Cardiopulmonary Evaluation and Clinical Correlation **4c-0l-4cr**
Disease states of the pulmonary and related systems are investigated in progression from etiology through treatment and prognosis.

RESP 337 Introduction to Pulmonary Function Studies **1c-0l-1cr**
Introduces the basic principles of lung volumes, capacities, and their measurement. Blood gas sampling and electrodes are also explored.

RESP 342 Preceptorship in Respiratory Care **1c-0l-1cr**
Prerequisites: RESP 326, 328, 329, 330, permission
An opportunity to gain additional clinical experiences in a supervised health care setting. Must meet university and sponsoring preceptorship requirements. May be repeated for a maximum of 5cr. A minimum of 40 hours is required for each credit.

RESP 425 Clinical Case Studies **3c-0l-3cr**
Increases the working knowledge of disease states commonly experienced by patients in the critical care setting. Emphasizes recognition and treatment of various disease states. Methods for evaluation and treatment of clinical oxygenation disturbances and acid-base disorders are explored. Clinical simulations, case studies, and patient management problems reviewed and discussed. Emphasizes appropriate information-gathering and decision-making techniques.

RESP 426 Respiratory Care Clinical Practice III **var-4cr**
Respiratory care treatment procedures are continued with emphasis on improving proficiency and refining skills in adult general and critical care areas. Focus on advanced skills related to mechanical ventilation. Specialty rotations are continued

RESP 428 Essentials of Electrocardiography **2c-0l-2cr**
Acquaints the student with basic principles in cardiac electrodiagnostics. Topics include the technique of ECG testing and fundamentals of ECG arrhythmia recognition.

RESP 429 Design and Function of a Respiratory Care Program **2c-0l-2cr**
Basic management principles as they apply to the hospital setting; in particular, respiratory care departments and schools are discussed.

RESP 430 Pulmonary Function Studies **3c-0l-3cr**
Prerequisite: RESP 337
Introduces the advanced diagnostic studies and equipment necessary for diagnosing and quantifying the various lung diseases. Included are advances in invasive studies and rehabilitation evaluation tools.

RESP 431 Pediatric Respiratory Care **1c-0l-1cr**
Prerequisites: RESP 334 and 336
The application of respiratory care to children ages six months to fifteen years is explored. Cardiopulmonary pathophysiology and treatment for the following disorders are discussed: Croup, Epiglottitis, Asthma, Cystic Fibrosis, Congenital Heart Defects, Abdominal and Chest Wall Defects.

RESP 433 Respiratory Care Clinical Practice IV **var-4cr**
Respiratory care treatment procedures are continued with emphasis on functioning with greater independence and improving proficiency and refining skills in adult general and critical care areas. Experience in non acute health care settings is included. Specialty rotations are continued. Provides opportunities to develop leadership skills.

RESP 434 Neonatal Respiratory Care **3c-0l-3cr**
Basic terminology, anatomy, and pathophysiology of obstetric, fetal, neonatal, and pediatric patients are presented.

RESP 436 Respiratory Care Teaching **2c-0l-2cr**
An introduction to respiratory education.

RESP 437 Methods in Critical Care **2c-0l-2cr**
Critical Care diagnostic and therapeutic modalities pertinent to respiratory care are discussed. Topics include invasive and noninvasive cardiac monitoring, pulmonary monitoring, neurological assessment, ventilator commitment, and discontinuance.

RESP 438 Cardiopulmonary Rehabilitation **1c-0l-1cr**
Techniques and principles associated with cardiopulmonary rehabilitation programs are surveyed. Topics also include the management of chronic pulmonary disease in the home and the application of respiratory equipment and mechanical ventilators in this setting.

RESP 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

RGPL: Regional Planning
Department of Geography and Regional Planning
College of Humanities and Social Sciences

RGPL 213 Cartography I **3c-0l-3cr**
Introduces principles of thematic map construction. Emphasizes techniques of choropleth mapping and the production of scientific graphs and charts. (Also offered as GEOG 213; may not be taken for duplicate credit)

RGPL 281 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students. (May also be offered as GEOG 281; may not be taken as duplicate credit under same title)

RGPL 313 Cartography II **3c-0l-3cr**
Prerequisite: RGPL 213
Gives an understanding of the compilation and use of maps and quantitative data. Develops skills essential to the construction of various types of maps. (Also offered as GEOG 313, may not be taken for duplicate credit)

RGPL 314 Map and Photograph Interpretation **3c-0l-3cr**
Maps and air photographs, along with remote sensing materials, permit inventory and analysis of geologic, land use, urban development, and other landscape phenomena. The understanding of these materials and associated tools for their use is presented. (Also offered as GEOG 314; may not be taken for duplicate credit)

RGPL 316 Introduction to Geographic Information Systems **3c-0l-3cr**
Prerequisite: RGPL 213, or equivalent, or instructor permission
Automated methods for creating, maintaining, and analyzing spatial data are presented. Topics include (1) specialized GIS hardware and software, (2) vector vs. raster vs. object-oriented spatial data structures, (3) creation and manipulation of geographic data files, (4) database design and management concepts, (5) spatial analysis, and (6) cartographic design. (Also offered as GEOG 316; may not be taken for duplicate credit)

RGPL 332 Urban Geography **3c-0l-3cr**
Basic concepts of urban geography including site, situation, function, urban land use, urban structure, and urban hierarchy are introduced. Relationships

between urban geography and urban planning are explored. (Also offered as GEOG 332; may not be taken for duplicate credit)

RGPL 333 Trade and Transportation **3c-0l-3cr**
Deals with the spatial aspects of transportation systems and their use. Circulation, accessibility, time and distance concepts, and trade patterns are discussed. (Also offered as GEOG 333; may not be taken for duplicate credit)

RGPL 345 Biogeography for Environmental Managers **3c-0l-3cr**
Prerequisite: One of the following: GEOG 341, 342, BIOL 103, 112, 115
Examines the distribution of plants and animals across the earth's surface, as influenced by natural and human processes. Emphasizes landscape and regional habitat dynamics as they relate to environmental planning and management. Field trips supplement lectures and readings. (Also offered as GEOG 345; may not be taken for duplicate credit)

RGPL 350 Introduction to Planning **3c-0l-3cr**
An introduction to the profession and activity of contemporary American urban and regional planning. Emphasizes land use control, design, growth management, and development regulation. The legal and institutional bases of planning practice are covered as well.

RGPL 352 Planning Methods **3c-0l-3cr**
Research, analytical design, and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans. (Also offered as GEOG 352; may not be taken for duplicate credit)

RGPL 353 Planning Design I **3c-0l-3cr**
Introduces professional graphic communications. Emphasizes the use of 2-D Computer Aided Design (CAD) applications, plan graphics, and professional standards to represent and solve basic physical planning problems.

RGPL 412 Research Seminar **3c-0l-3cr**
Prerequisite: RGPL 468
This senior seminar and workshop is a capstone course that focuses on recent research in the major field. Students carry out a research project on a topic of local or regional importance. (Also offered as GEOG 412; may not be taken for duplicate credit)

RGPL 415 Remote Sensing **3c-0l-3cr**
Deals with air photographs, satellite imagery, thermal sensing, and radar imagery and their application to deriving information about the earth's physical and cultural landscapes. (Also offered as GEOG 415; may not be taken for duplicate credit)

RGPL 417 Technical Issues in GIS **3c-0l-3cr**
Prerequisite: RGPL 316
A project-based class in which students learn the skills to develop and maintain a Geographic Information System. Through cooperative learning, students design and implement functional systems. Methods for designing GIS systems to user specification, data collection, data input, project management, and system documentation are covered. (Also offered as GEOG 417; may not be taken for duplicate credit)

RGPL 454 Planning Design II **3c-0l-3cr**
Prerequisites: RGPL 350, RP353 or instructor permission
Introduces the activity of design, design programming, design decision making, and design communications. Focuses specifically on the development of site planning, site analysis, and site design skills as well as the translation of design program elements into physical form.

RGPL 458 Land Use Law **3c-0l-3cr**
Prerequisite: RGPL 350
Introduces principles of land use law. Focus is on federal constitutional principles and key Supreme Court cases, especially as they relate to actions of local units of government and municipal planning practice. Deals with the present state of land use law and with current trends and issues.

RGPL 464 Land Use Policy **3c-0l-3cr**
Prerequisite: RGPL 350
Introduces and provides an overview of land use issues at the regional, state, and federal levels. Emphasizes the evolution of contemporary policy strategies, constitutional issues, and regional controversies involved in the regulation of metropolitan growth, central city decline, and management of public lands. (Also offered as GEOG 464; may not be taken for duplicate credit)

RGPL 468 Planning Theory **3c-0l-3cr**
Prerequisites: RGPL 350, 352, 454, or instructor permission
A seminar on contemporary debates concerning planning traditions, principles, and practices. The activity of planning is investigated from several theoretical frames and analytic positions.

RGPL 481 Special Topics **3c-0l-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students. (May also be offered as GEOG 481; may not be taken for duplicate credit under same title)

RGPL 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

RGPL 493 Internship **var-1-12cr**
Professional learning experience with emphasis on application of academic background. Open to majors and minors in regional planning with a total of 57cr and 15cr in the major. See internship supervisor for additional information.

RHAB: Rehabilitation
Department of Special Education and Clinical Services
College of Education and Educational Technology

RHAB 200 Introduction to Rehabilitation **3c-0l-3cr**
A foundation for subsequent courses in the rehabilitation sequence. It is also available as a prerequisite or basic course for students interested in the rehabilitation of individuals in our society. Content includes the philosophy, history, major concepts, and current problems and issues.

RHAB 211 Medical Aspects of Rehabilitation **3c-0l-3cr**
Provides an overview of the etiology and pathology of a range of medical disorders which often require rehabilitative services. Emphasizes the psychosocial and functional effects of these disorders, vocational implications, and rehabilitative needs.

RHAB 220 Neurological Basis of Disability **3c-0l-3cr**
Prerequisites: EDEX 111, RHAB 200, BIOL 155 or HP221
A study of the brain and spinal cord with emphasis on cortical and subcortical mechanisms instrumental in normal motion, coordination, and bodily sensation, exclusive of vision and hearing. A discussion and demonstration of conditions of cerebral palsy, poliomyelitis, traumatic paraplegics, cerebrovascular accident, Parkinson's disease, multiple sclerosis, and rehabilitative procedures.

RHAB 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

RHAB 312 Psychological Basis of Disability **3c-0l-3cr**
A study of emotional and social responses which govern behavior and

relationships of handicapped individuals and rehabilitation workers alike, with emphasis on the role of disability in formation of the concept of human worth.

RHAB 321 Principles and Methods of Rehabilitation **3c-01-3cr**
Prerequisites: RHAB 220, 312, and instructor permission
Delineates the roles of members of professional disciplines of medicine, psychology, prosthetics, orthodontics, audiology, speech pathology, physical and occupational therapy in restoration of the handicapped; use of diagnostic information; significance and interpretation of medical examination; role of rehabilitation counselor in the agency.

RHAB 322 Rehabilitation Case Study and Interpretation **3c-01-3cr**
Prerequisites: RHAB 220, 312, or instructor permission
Purpose and techniques of case history taking; meaning and evaluation of diagnostic information; psychological evaluation in terms of mental ability, personality, attitudes, and dexterity skills; role of disabled individual's family in planning of services; referrals and report writing.

RHAB 360 Rehabilitation Counseling: Strategies **3c-01-3cr**
Prerequisites: Permission, Rehabilitation majors only
Helps develop competencies in using various counseling techniques with handicapped persons. Various theories of counseling are explored relative to the rehabilitation setting. Provides basic counseling skills to upperclass Rehabilitation majors prior to field training.

RHAB 410 Vocational Assessment in Rehabilitation Counseling **3c-01-3cr**
Prerequisites: EDEX 111, RHAB 220, or faculty permission
Provides an overview of vocational assessment techniques and instruments for use with rehabilitation clients who are blind, deaf, mentally retarded, or severely physically handicapped. Includes discussion of rehabilitation evaluation.

RHAB 412 Occupational Aspects of Rehabilitation **3c-01-3cr**
Prerequisite: RHAB 220 or instructor permission
The realism of the world of work and relationship of gainful employment to human autonomy and decision making. Types of jobs, levels of required skills, potential capabilities of the disabled relative to specific job responsibilities, methods of assessing potential job success, and sheltered workshops.

RHAB 422 Current Topics in Rehabilitation **3c-01-3cr**
Taken concurrently with RHAB 488 and 493. A discussion of current topics of interest in the field, such as state and federal legislation, new prosthetic advances, proposals of the National Rehabilitation Association, or recent techniques in working with specific disabilities.

RHAB 460 Advanced Rehabilitation Counseling **3c-01-3cr**
Prerequisite: RHAB 360
Selected counseling techniques studied and practiced under supervision. Application is utilized in roles that will approximate the kind of clients encountered in field training.

RHAB 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

RHAB 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

RHAB 484 Directed Rehabilitation Activities **var-3cr**
Prerequisites: Permission, Rehabilitation majors only
A pre-field training experience working with handicapped clients in local facilities. Concrete experience helps the students integrate classroom instruction with field experiences.

RHAB 488 Field Training in Rehabilitation I **var-6cr**
Prerequisite: All major courses in program
Taken concurrently with RHAB 422 and 493. Emphasizes development of the student rehabilitation coordinator by working with disabled clients in a public or private agency. Writing and analysis of case reports, counseling of clients, understanding of agency responsibilities and limitations, referral, follow-up, and final evaluation of the client's ability to function with various degrees of autonomy.

RHAB 493 Field Training in Rehabilitation II **var-6cr**
Prerequisite: All major courses in program
Taken concurrently with RHAB 422 and 488. Provides a second field experience.

RLST: Religious Studies
Department of Religious Studies
College of Humanities and Social Sciences

RLST 100 Introduction to Religion **3c-01-3cr**
An introduction to the academic study of religion through an examination of various dimensions of religious expression and traditions. Covers such areas as problems about definition of religion; approaches to the study of religion; the goals, language, and rituals of religion; cases of religious experience; faith, disbelief, and alternatives to religion; religion and the sociocultural context.

RLST 110 World Religions **3c-01-3cr**
A comparative study of the history, teaching, and rituals of the major religions of the world and their influence on contemporary society. A nonsectarian approach to religions such as Native American religion, Afro-American religion, Judaism, Christianity, and Islam in relationship to Hinduism, Buddhism, Confucianism, Taoism, and Shinto.

RLST 114 Biblical Hebrew I **3c-01-3cr**
Enables students to read the prose of Biblical Hebrew or Classical Hebrew–that is, the major language in which the Hebrew Bible/Old Testament was written during the first millennium B.C.E. By learning the fundamentals of Biblical Hebrew grammar and vocabulary, students thus acquire the tools and skill to do translation of this important ancient text for themselves. (Also offered as CRLG 114; may not be taken for duplicate credit)

RLST 164 Biblical Hebrew II **3c-01-3cr**
Prerequisite: RLST/CRLG 114
A continuation of Biblical Hebrew I with the same objective: to enable students to read the prose of Biblical Hebrew or Classical Hebrew. By learning the fundamentals of Biblical Hebrew grammar and vocabulary, students thus acquire the tools and skill to do translation of this important ancient text for themselves. (Also offered as CRLG 164; may not be taken for duplicate credit)

RLST 200 Religion and Culture: Their Interaction **3c-01-3cr**
A systematic study of the interaction of religions and various components of culture, as a way of understanding the phenomenon of religion. The approach is functional and descriptive; it uses case studies which are chronologically and culturally diverse, covering such areas as religion and politics, economics, arts, science, and literature.

RLST 210 World Scriptures **3c-01-3cr**
Major sacred writings of Hindu, Buddhist, Zoroastrian, Moslem, Confucian, Taoist, and Judeo-Christian traditions are studied from point of view of their religious significance.

RLST 220 Buddhist Thought and Practice **3c-01-3cr**
Explores the history, teachings, and practices of the main schools of Buddhism. Considers the tradition both as it has developed in Asia as well as its modifications as it has been introduced into Western societies.

RLST 245 Women and Religion **3c-01-3cr**
Prerequisite: RLST 110 or instructor permission
Examines women's roles and experiences within some of the world's major religious traditions, both past and present. In exploring patterns and instances of the empowerment and oppression of women, the course pays careful attention to feminist critiques.

RLST 250 Understanding the Bible **3c-01-3cr**
An introduction to scholarly methods and major themes necessary to understand the Hebrew Scriptures and the New Testaments of the Judeo-Christian tradition.

RLST 260 American Religious Development **3c-01-3cr**
A survey and analysis of topics which depict the role of religion in the U.S., e.g., American Indian religion; religion and the discovery/colonization/immigration trends of the U.S.; religion and the Constitution; indigenous religious movements; black religion; ecumenism; atheism; cults; mass media and religion; religion in Indiana County.

RLST 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

RLST 290 Christianity **3c-01-3cr**
A study of the beliefs, practices, significant persons, history, and cultural impact of Christianity.

RLST 311 Eastern Philosophy **3c-01-3cr**
An examination and critique of the philosophies which have shaped Eastern world views and ways of life as found in a representative sampling of Chinese, Japanese, and Indian thought.

RLST 312 Archaeology and the Bible **3c-01-3cr**
An investigation of religious-historical traditions of the Bible in light of archaeological research. Includes a study of archaeological method and interpretation, discoveries in Egypt, Mesopotamia, and Syro-Palestine as background for understanding the traditions and religious practices and beliefs of Israel, and special questions surrounding the Patriarchal narratives, the Exodus and Conquest, Israel under David and Solomon, the Dead Sea Scrolls, and New Testament times.

RLST 329 Philosophy of Religion **3c-01-3cr**
A philosophical critical examination of religion to include: the nature of religion; religious argumentation; existence and nature of God; meaning and relation of faith and knowledge; theories of origin or religion.

RLST 345 Women in the Bible **3c-01-3cr**
Prerequisite: One Religious Studies or Women's Studies course or instructor permission
Surveys and examines the stories and issues concerning women in the Bible and introduces the questions and methods of research that the contemporary world and feminist biblical scholars bring to them.

RLST 360 African Religions **3c-01-3cr**
An examination of the nature of African traditional religion and how traditional religion, Islam, and Christianity coexist and influence each other.

RLST 365 Native North American Religions **3c-01-3cr**
An introduction to the indigenous religions of North America and to the peoples who practice these rich and varied approaches to the sacred. Not only examines major religious themes and dimensions (myth, ritual, ethics, etc.) but includes a historical perspective on North American Indian lifeways. This perspective involves discussion of the clash with Euro-American values and contemporary native religious responses to social crisis and change.

RLST 370 Religions of China and Japan **3c-01-3cr**
A study of Confucianism, Taoism, Buddhism, Shinto, and popular religion in China and Japan, including historical and theological foundations, development of thought, contemporary expressions, and encounters with the modern world.

RLST 373 Advanced Studies in Buddhism **3c-01-3cr**
Prerequisite: RLST 110 or 210 or 220 or instructor permission
Explores in depth a particular aspect of the history, teachings, or practices of Buddhism. In certain semesters, focuses on how the tradition has evolved in a particular country, such as India, Sri Lanka, Thailand, Tibet, China, or Japan. In other semesters, explores the development of one particular school of the tradition, such as Pure Land or Zen Buddhism. Yet, other semesters will consider a specific topic, such as Buddhist scriptures, ethics, or ritual.

RLST 375 Religions of India **3c-01-3cr**
A study of Hinduism, Indian Buddhism, Jainism, and Sikhism, including historical and theological foundations, development of thought, contemporary expressions, and encounters with the modern world.

RLST 380 Islam **3c-01-3cr**
A study of Islam including historical and theological foundations, developments of thought, contemporary expressions, and encounters with the modern world.

RLST 410 Early Christian Thought **3c-01-3cr**
The development of Christian thought approached through an in-depth study of selected writings from the early Church Fathers to the Protestant Reformers.

RLST 440 Modern Christian Thought **3c-01-3cr**
An examination of Christian thought, approached through in-depth study of selected writings from major theologians of the nineteenth and twentieth centuries.

RLST 480 Seminar in Religious Studies **3c-01-3cr**
Prerequisite: RLST students or instructor permission
Provides an advanced forum for detailed exploration of a single topic or single author, subject to instructor's choice. Enrollment limited to RLST majors and other students by invitation or permission.

RLST 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

RLST 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Individual students wishing to pursue religious studies interests not covered in the department's regular offering may do so by approval. Upon approval students are guaranteed at least five hours of faculty time per credit. All programs of study must be accepted by the department as a whole. May be taken more than once to maximum of 6cr. (This option is available to both RLST majors and nonmajors.)

RLST 482 Independent Study: Honors **3c-01-3cr**
Prerequisites: 3.00 GPA, 15cr in RLST, and 3.20 GPA in departmental courses
Majors in RLST are invited to take 3cr of independent study-designated Honors Project. Upon satisfactory completion, graduation with departmental honors is possible.

RLST 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

RLST 485 Selected Topics in Feminist Studies of Religion 3c-0l-3cr
Prerequisite: One Religious Studies or Women's Studies course or instructor permission
Offers rotating topics in feminist studies in religion by alternating professors in the Department of Religious Studies. Such topics may include: "Contemporary Feminist Spirituality Movements," "Goddesses in the Ancient Near East," "Feminist Biblical Scholars and Theologians," and "Women in Buddhism."

RLST 493 Internship in Religious Studies 6-12cr
Prerequisites: Junior or senior; RLST major or double major; 2.5 GPA in major; department approval
A supervised experience in a public or private organization which extends and complements coursework in Religious Studies.

SAFE: Safety Sciences
Department of Safety Sciences
College of Health and Human Services

SAFE 101 Introduction to Occupational Safety and Health 3c-0l-3cr
Introduces the evolution of the safety profession through study of historical events and the changes that resulted. Gain an understanding of the key components of the profession such as OSHA and workers' compensation, accident investigation, occupational health hazards, emergency response, product liability, ergonomics, fleet safety, ethics, and measuring safety program success. Case studies and small group activities prepare students for further in-depth study of these topics and to fulfill their roles as professionals.

SAFE 102 Introduction to Mine Safety and Health 3c-0l-3cr
Provides an in-depth background of the problems involving mine safety. A historical approach to coal and mineral mining is reviewed; legislative influences such as the Federal Coal Mine Health and Safety Act, the Metal and Nonmetal Mine Health and Safety Act, and the Occupational Safety and Health Act are discussed in depth; mining techniques, methods, and systems are discussed. Presents management of mine health and safety programs. Covers federally mandated training of employees. Offered occasionally.

SAFE 111 Principles of Industrial Safety I 3c-0l-3cr
Prerequisite: SAFE 101
Stresses an understanding of the complexity of the industrial hazard control problem by thoroughly examining elements of safety and health enumerated in the OSHA promulgated standards and various consensus standards. Emphasizes plant layout and design, powered industrial vehicles, boilers and unfired pressure vessels, machine guarding, robotics safety, and an introduction to industrial processes.

SAFE 145 Workplace Safety Today and Tomorrow 3c-0l-3cr
Prerequisite: Non-Safety Sciences major
Introduces workplace safety, health, and environmental aspects to students with limited knowledge of the subject. Includes the historical development of safety and health regulations, the impact of injury on society, identifying and evaluating hazards, and hazard controls in specific industrial processes, basic principles of loss management, and the future of safety, health, and environmental regulations.

SAFE 210 Environmental Safety and Health Regulations 3c-0l-3cr
Prerequisites: CHEM 102, SAFE 101, or instructor permission
Offers a practical approach to the understanding of, and compliance with, the various environmental regulations that impact on business. A thorough discussion of the definitions, categories, and evaluation of hazardous materials is included. Environmental laws covered include the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, the Compensation and Liability Act, the Occupational Safety and Health Act, and other related laws.

SAFE 211 Principles of Industrial Safety II 3c-3l-4cr
Prerequisite: SAFE 111
Stresses an understanding of the complexity of industrial hazard control by thoroughly examining elements of safety and health enumerated in the Occupational Safety and Health Administration promulgated standards and in various consensus standards. Emphasizes welding and cutting, walking and working surfaces, materials handling and storage, electrical safe work practices, construction safety, and personal protective equipment. The application of hazard control strategies is accomplished in laboratory sessions.

SAFE 231 Principles of Mine Safety I 3c-0l-3cr
Prerequisite: SAFE 102
Focuses on the various aspects of mining operations such as slope and shaft development, mine design; ground control; hoisting; man-trips, haulage; mining equipment; mine emergency planning and procedures; mine communications and maintenance. Offered occasionally.

SAFE 232 Principles of Mine Safety II 3c-0l-3cr
Prerequisite: SAFE 102
Covers surface mining operations such as slope stability, equipment, ground water, and control. Mine-related processing operations are discussed. Provides an in-depth study of the various controls of electrical hazards and ignition sources such as permissible equipment and electrical distribution systems. The uses of explosives and blasting practices, handling, storing, and transportation with emphasis on causes of explosion involving dust and gases are discussed. Offered occasionally.

SAFE 245 Product Safety 3c-0l-3cr
Prerequisite: MATH 217
Traces flow of applicable legislation dealing with consumerism and product safety. Corporate liability for product safety emphasized through case studies. Students are familiarized with the evolving role of Consumer Product Safety Commission. Corporate management of product development and safety detailed with emphasis on systems safety analysis, standards, and product testing.

SAFE 281 Special Topics var-1-3cr
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

SAFE 299 Experience in Cooperative Education I 0e-0l-0cr
Prerequisites: GPA of 2.0 or better, SAFE 101, 111; approval of academic advisor, co-op coordinator, and department chairperson
Provides the initial experience in a program designed to combine classroom theory with practical application through job-related experiences. Open to Safety Sciences majors and minors in their sophomore year. Students are employed by organizations where there is an ongoing hazard control program under the direction of an experienced safety professional.

SAFE 301 Health Hazard Identification 3c-0l-3cr
Prerequisites: BIOL 155, CHEM 102, MATH 121, PHYS 111
Provides an understanding of the primary health hazards found in industry and their effects on the human body. Students learn to recognize hazards involved with air contaminants, noise, heat, radiation, chemicals on the skin, and other stressors. Emphasizes the study of occupational disease, industrial toxicology, and use of threshold limit values.

SAFE 303 Control of Health Hazards 3c-0l-3cr
Prerequisites: MATH 217, PHYS 112, SAFE 301
A study of engineering, administrative, and personal protective equipment as methods of reducing or eliminating hazards to the health of industrial workers. Includes industrial ventilation, noise control, heat control, radiation control, personal protective equipment, and industrial health program.

SAFE 311 Fire Protection 2c-3l-3cr
Prerequisites: CHEM 102, PHYS 112
Explores the principles involved in the protection of people and property from fire and explosion. Basic fire safety terminology, fire chemistry and extinguishment, fire safety references and standards, and fire program

management are discussed along with the properties of hazardous materials. Also discussed are control measures for common fire and explosion hazards and the design of buildings in terms of life safety and fire suppression systems. Development of programs in fire safety and the evaluation and control of fire and explosion hazards are studied in laboratory sessions. Practical application of fire principles is completed in laboratory sessions.

SAFE 345 Systems Safety Analysis **2c-3l-3cr**
Prerequisites: MATH 217, SAFE 211
Focuses on the evaluation of system designs using detailed system analysis techniques. Topics include system definition, economics of systems safety, systems safety methodology, mathematics of systems analysis including statistical methods, Boolean algebra, and reliability. Skills gained include the ability to perform system hazard analyses and operating and support hazard analyses. Techniques include failure mode and effect analysis, fault tree analysis, and technique for human error rate prediction. Practical analysis work is accomplished in laboratory sessions.

SAFE 347 Ergonomics **2c-3l-3cr**
Prerequisites: BIOL 155, SAFE 301
Explores the principles which control human performance and its effect upon the safety and reliability of systems. Engineering anthropometrics, human perception, biomechanics of motion and work posture, work physiology, and human performance measurement are taught in the context of their application in workplace design. Instructs in methodologies for analysis of tasks and human performance requirements. Important human limitations and ergonomic hazard evaluations, such as lifting and repetitive motion tasks, are studied in laboratory sessions.

SAFE 370 Fleet Safety **3c-0l-3cr**
Prerequisites: SAFE 101, junior standing
Includes topics involved with the development and operation of motor fleet safety programs: driver selection and training, accident investigation and recordkeeping, equipment safety features, preventive maintenance, and driver incentive programs.

SAFE 380 Institutional Safety Management **3c-0l-3cr**
Prerequisite: Junior standing
Historical aspects of safety for both private and public institutions; introduction to trends in liability and institutional safety regulations. Distinctions are made between employee, visitor, and patient hazards and their control.

SAFE 399 Experience in Cooperative Education II **0c-0l-0cr**
Prerequisites: SAFE 299 and GPA of 2.0 or better
Represents the second experience in a program designed to combine classroom theory with practical application through job-related experiences. Open to Safety Sciences majors and minors before completing the required Safety Sciences internship or achieving senior status for minors. Students are employed by organizations where there is an ongoing hazard control program under the direction of an experienced safety professional.

SAFE 401 Mine Ventilation **2c-3l-3cr**
Prerequisites: MATH 122, PHYS 112, SAFE 102, or consent
A study of mine ventilation principles and practices which provide a basic knowledge in design and operation of mine ventilation systems. The topics of airflow physics, ventilation standards, fan fundamentals, pressure losses, required air flows, and overall design are discussed. Specific problems in mine ventilation are solved. Offered occasionally.

SAFE 402 Health Hazard Evaluation **2c-3l-3cr**
Prerequisites: MATH 217, PHYS 112, SAFE 301
A lecture/laboratory course which provides a basic understanding of techniques used in measuring and evaluating the magnitude of health hazards in industry. Laboratory sessions provide experience in air sampling, noise measurement, heat measurement, particle size analysis, chemical analysis, and evaluation of industrial ventilation systems.

SAFE 412 Hazard Prevention Management **3c-3l-4cr**
Prerequisites: MATH 217, MGMT 311
Examines various safety management techniques to identify and prevent the occurrence of hazardous behavior and conditions. Develops methods capable of extracting accurate, meaningful data and of collecting, codifying, and processing hazard and loss incident information. Data retrieval systems are used in cost/benefit decision-making for hazard prevention and safety program and performance evaluation.

SAFE 420 Law and Ethics in the Safety Profession **3c-0l-3cr**
Prerequisite: Junior standing
Examines ethical and legal issues that present themselves to practicing safety professionals. Students identify and evaluate these issues in terms of their own value system, as well as legal and prudent practice within the safety, health, and environmental profession. Specific reference is made to participation of the safety professional in workers' compensation cases, Occupational Safety and Health Review Commission hearings, class action suits, and trials by jury.

SAFE 441 Accident Investigation **3c-0l-3cr**
Prerequisites: SAFE 101, junior standing or consent
Focuses on various aspects of accident investigation such as recent theories associated with accident causes, investigative techniques, data acquisition, structure of investigative reports, management responsibilities, and remedial actions. Particular emphasis on determining sequence of events to develop management actions which prevents recurrence of accidents.

SAFE 442 Current Issues in Safety **3c-0l-3cr**
Prerequisite: SAFE 211 and 301 or permission
Examines the emerging issues currently faced by the environmental, safety, and health (ESH) practitioner that extend beyond the conventional areas of academic preparation. In addition, explores certification, ethics, compliance issues, quality management, worldwide concerns, and other common issues. Each student researches and presents information on specific item of current relevance in the safety profession.

SAFE 443 Construction Safety **3c-0l-3cr**
Prerequisites: SAFE 211 and junior standing or permission
Provides an in-depth coverage of hazard recognition, evaluation, and control principles for the variety of phases of construction. Information regarding the development of a construction safety program along with extensive coverage of federal standards related to the construction industry is also provided.

SAFE 461 Air Pollution **3c-0l-3cr**
Prerequisite: SAFE 301 or consent
Focuses on various major aspects of the air pollution problem. Includes sources of pollution, evaluation and engineering of pollutants, government regulations, atmospheric chemistry and dispersion, and human and nonhuman effects. Particular emphasis on information that is practical for the safety management, industrial health, or environmental health professional.

SAFE 462 Radiological Health **3c-0l-3cr**
Prerequisite: SAFE 301 or consent
A study of problems associated with ionizing radiation in human environment. Emphasizes biological effects, radiation measurement, dose computational techniques, exposure control, and local and federal regulations. Study and use of various radiological instruments included.

SAFE 465 Right-to-Know Legislation **3c-0l-3cr**
Prerequisites: SAFE 301, 311, or instructor permission
Covers both the federal and selected state right-to-know laws and related legislation. The scope, application, and enforcement of the various laws, including specific legal and moral obligations, are discussed. Strategies are explored and developed to identify the means by which employers can gain compliance with regulatory requirements.

SAFE 472 Process Safety in the Chemical Industry **3c-0l-3cr**
Prerequisites: SAFE 301, 311, 345, and senior standing, or instructor permission
Designed to cover all important aspects of loss prevention as it is practiced in the chemical process industries. Objective is to prepare the safety professional so that he/she may be able to work more effectively with

chemists and chemical engineers in joint hazard identification, evaluation, and control projects.

SAFE 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

SAFE 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

SAFE 488 Internship **12cr**
Prerequisites: Senior standing, all required courses in major, minimum 2.8 cumulative GPA and 3.0 GPA in major, and consent
A practicum conducted at an approved occupational setting up to 500 miles away from IUP. Students are required to conduct four major projects. One project will be from each of the following areas: Safety Management, Industrial Safety, Industrial Hygiene, and Fire Protection. Students are accountable to an on-site supervisor and are required to remain in close contact with a Safety Sciences faculty coordinator

SAFE 493 Internship **var 1-6cr**
Prerequisites: Senior standing, all required courses in major
Applies hazard assessment and management practices to actual workplace safety issues, which requires the student to visit workplace sites. A two-hour weekly debriefing session involves the students in developing their written and oral communication skills. All SAFE students are required to take an internship, either SAFE 488 or SAFE 493.

SCI: Science
College of Natural Sciences and Mathematics

SCI 101 Fundamentals of Physics **2e-2l-2.5cr**
Prerequisite: Elementary Education major or instructor permission
A conceptual course in physics for Elementary Education majors. High school physics is not a prerequisite. Class and lab presentations concentrate upon dispelling naive concepts and developing a better understanding and appreciation of the physical world. The topics of motion, heat, light, sound, electricity, magnetism, and the nucleus are presented in context with our everyday experiences. Does not fulfill the Liberal Studies requirement except for majors in Elementary Education and Early Childhood Education/PreK-Grade 6.

SCI 102 Fundamentals of Chemistry **2e-2l-2.5cr**
Prerequisite: Elementary Education major or instructor permission
A survey of chemical principles and concepts. The nature of chemical reactions as applied to technology and its applications to society. The world of consumer chemistry is explored. The goal is to develop a chemical literacy for the student. A series of laboratory exercises develops concept understanding and process skills. Some individual and group projects are included. Does not fulfill the Liberal Studies requirement except for majors in Elementary Education and Early Childhood Education/PreK-Grade 6.

SCI 103 Fundamentals of Earth and Space Science **2e-2l-2.5cr**
Prerequisites: SCI 101, 102
An introduction to geology, astronomy, oceanography, and meteorology for Elementary Education majors. Emphasizes the understanding of large scale processes and how the earth, solar system, and universe work. Lab experiences include hands-on work with earth materials and with instruments from all of our subjects, map, and field trips which may occur during class times, nights, and weekends. Does not fulfill the Liberal Studies requirement except for majors in Elementary Education and Early Childhood Education/PreK-Grade 6.

SCI 104 Fundamentals of Environmental Biology **2e-2l-2.5cr**
Prerequisites: SCI 101, 102
A basic introduction to the major concepts and principles of ecology and their application to modern living for majors in Elementary Education and Early Childhood Education/PreK-Grade 6.

SCI 105 Physical Science I **3e-2l-4cr**
A descriptive and conceptual course in physics for the non-Science major. High school physics is not a prerequisite. Content is designed to develop an understanding and appreciation of the physical world around us, to produce changes in attitude and background essential for our modern society, and to clarify the following topics: motion, heat, sound, light, electricity, magnetism, and the structure of matter.

SCI 106 Physical Science II **3e-2l-4cr**
A basic course in environmental and consumer chemistry for the non-Science major. High school chemistry is not a prerequisite. Major topics include humankind's use and abuse of soil, water, air, and energy resources, global food production and hunger, the nuclear industry, and the threat of nuclear war. Consumer topics include vitamins and nutrition, food additives, pesticides, and drugs.

SCI 201 Great Ideas in Science **3e-0l-3cr**
Prerequisites: No majors in Physics, Chemistry, Geoscience, Biology, Biochemistry or Natural Science
Introduces the great ideas in the fields of Physics, Chemistry, Geoscience, and Biology at a level designed to deepen their understanding of the natural world around them and allow them to address intelligently those public issues that are based on science.

SCI 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

SCI 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

SCI 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

SOC: Sociology
Department of Sociology
College of Humanities and Social Sciences

SOC 151 Principles of Sociology **3e-0l-3cr**
A scientific study of structure and functioning of human societies, with special attention to factors responsible for the organization and transformation of sociocultural systems. Specific course content varies from one instructor to another.

SOC 231 Contemporary Social Problems **3e-0l-3cr**
An exploration of some pressing problems currently endemic to Western society. Problems are defined and solutions explored in light of historical, political, economic, social, and anthropological data.

SOC 233 Language and Culture **3e-0l-3cr**
Focuses on social and cultural functions of language. Particular emphasis on analysis of non-Western languages.

SOC 251 Sociology of Human Sexuality **3c-0l-3cr**
An in-depth analysis of a formerly taboo topic, human sexuality. Current information from biological, psychological, and sociological research on human relationships is presented to provide a foundation for self-understanding and societal values.

SOC 269 Sociology of Deviance **3c-0l-3cr**
Prerequisite: SOC 151 or instructor permission
Provides an overview of the Sociological study of deviance. Begins with examining the nature and meaning of deviance or how society creates deviance as social and legal constructions and identifies specific human behaviors as types or forms of deviance. Also examines the major theories or multi-causal explanations of why such deviance occurs. Further describes how society, especially its social institutions and agents, attempts to control or suppress such deviance. Social policy implications of such societal reactions are also considered.

SOC 271 Cultural Area Studies: Africa **3c-0l-3cr**
Explores the cultural diversity of the continent of Africa. The first unit examines the historical processes which shape modern society, including the formation of indigenous African empires, the evidence for trade routes, slave trading, and colonialism. The second unit examines the nature of African traditional societies, including analyses of forager and agricultural groups. The last unit covers issues of contemporary development in Africa such as famine and agricultural policy, the status of women in economic development, and apartheid. Reading includes ethnographic and historical accounts of African society as well as selections by African writers on the issues of contemporary society. (Also offered as ANTH 271; may not be taken for duplicate credit)

SOC 272 Cultural Area Studies: China **3c-0l-3cr**
Assists in developing an understanding of contemporary China. While the course begins with prehistoric and historic aspects of China, the focus is on contemporary issues presented in the context of sociological theory. Specific Chinese cultural components are investigated, including values, attitudes, norms, social organization, linguistics, and folklore. (Also offered as ANTH 272; may not be taken for duplicate credit)

SOC 273 Cultural Area Studies: Southeast Asia **3c-0l-3cr**
An introduction to the peoples and cultures of Southeast Asia. Prehistory and the development of indigenous states in Southeast Asia and analysis of impact of world religions, such as Islam, and Western colonialism. Also examines modern hunter-gatherer and farming societies and discusses contemporary issues in social and economic change, including the "Green Revolution," tropical deforestation, the struggle of ethnic minority tribal peoples, and the plight of Indochinese refugees. (Also offered as ANTH 273; may not be taken for duplicate credit)

SOC 274 Cultural Area Studies: Latin America **3c-0l-3cr**
An introduction to the peoples and cultures of Latin America. Focuses on the prehistory and development of pre-Columbian complex societies in Mesoamerica and the Andes and analyzes the impact of European colonialism on these major regions. Also examines contemporary issues, such as civil wars, economic development, rural-urban migrations, and migration and immigration of Latin American peoples into the United States. (Also offered as ANTH 274; may not be taken for duplicate credit)

SOC 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

SOC 286 Marriage, Kinship, and the Family **3c-0l-3cr**
Sociological and anthropological study of patterns of marriage, kinship, and family life, with emphasis on the relationship between family patterns and other social institutions. Topics include the family and marriage in historical and comparative perspective; worldwide patterns of gender stratification; incest and incest avoidance; class and race contexts of family patterns; mate selection and love; parenthood and child rearing; domestic and sexual violence; alternative family lifestyles; and the current crisis and possible future of the family. Intended for a broad audience but also open to sociology and anthropology majors and minors. (Also offered as ANTH 286; may not be taken for duplicate credit)

SOC 301 Foundations of Sociological Practice **3c-0l-3cr**
Prerequisite: SOC 151
Introduces the field of sociological practice and develops an understanding of the relevance of micro and macro sociological theory to understanding human problems. Focuses on applications of sociological theory and methods to the helping professions and especially to understanding the interactional aspects of the relationship between service users and service providers. Also acquaints students with the structure of the human service system in American society.

SOC 302 Clinical Sociological Practice **3c-0l-3cr**
Prerequisite: SOC 301
Prepares the student to effect constructive change within individuals, groups, families, and communities. Draws its analysis, diagnosis, and methods from the foundations of sociological theory at the level of intervention with clients.

SOC 303 Social and Cultural Change **3c-0l-3cr**
Prerequisite: SOC 151
An exploration of current theoretical perspectives on social and cultural change. Special attention given to planned change at the local or regional level.

SOC 314 Native Americans **3c-0l-3cr**
A survey of culture history and culture area characteristics of Native Americans of North America. A detailed study of representative groups related to historical, functional, and ecological concepts.

SOC 320 Sociological Theory **3c-0l-3cr**
Prerequisites: SOC 151 and second-semester sophomore standing
A detailed survey of the historical development of sociological theory from the mid-nineteenth century to the present. Treats the classical theorists Marx, Durkheim, and Weber and such contemporary theoretical schools as functionalism, Marxian and Weberian conflict theory, cultural materialism, social evolutionism, rational choice theory, symbolic interactionism, ethnomethodology, sociobiology, structuralism, and postmodernism. Students are encouraged to take this course in the second semester of their sophomore year or during their junior year.

SOC 333 Delinquency and Youth **3c-0l-3cr**
Prerequisite: SOC 151
A study of social and cultural factors involved in various youth lifestyles, including delinquency. Cross-cultural and historical approach used in a review of social norms, social control, and socialization institutions and community-based programs for rehabilitation.

SOC 335 Alcohol and Drug Abuse **3c-0l-3cr**
Prerequisite: SOC 151
Examines the social issues and problems of alcohol and drug misuse in American society. Legal and illegal substances are considered, and the causes of substance abuse as well as alternatives are examined.

SOC 336 Sociology of the Family **3c-0l-3cr**
Prerequisite: SOC 151
A sociological study of the family from various theoretical viewpoints. A special emphasis is on the contemporary American family. A variety of topics are covered, such as mate selection, power relationships and roles in the family, parent-child interaction, marital satisfaction, divorce, and others.

SOC 337 World Societies and World Systems **3c-0l-3cr**
Prerequisite: One of the following: ANTH 110, ECON 101 or 121, GEOG 230, HIST 202, PLSC 101 or 282, SOC 151
A detailed analysis of the evolution of human societies, with special emphasis on the modern world system of societies that began to emerge in the

sixteenth century and that has since expanded to include the entire globe. Topics include societies during the preindustrial era; the emergence of modern capitalism in the sixteenth century; relations between developed and less-developed societies in the modern world; the ascent and decline of nation-states in the modern world; the current plight of the Third World; the rise and demise of socialism in the twentieth century; and various scenarios for the human future.

SOC 340 Sociology of Industry **3c-0l-3cr**
Prerequisite: SOC 151
An examination of industrial organizations and their environments. Production systems analyzed in terms of different forms of organization, e.g., bureaucratic, power-equilibrium, and worker-participation. Special attention paid to who defines production, how such definitions are legitimized, and how constraints are placed on such definitions by union and other political organizations.

SOC 341 Sociology of Education **3c-0l-3cr**
Prerequisite: SOC 151
Examines the place of education in society. Special attention to the development of education in America and its relation to political and economic phenomena. Some attention given to education in other industrial and agrarian societies.

SOC 342 Social and Cultural Aspects of Health and Medicine **3c-0l-3cr**
Prerequisite: 6cr in Sociology or Anthropology
A review of the fields of medical sociology and anthropology. Focuses on such topics as health and illness in cross-cultural context, aging, social and psychological aspects of pain, and social organization of health facilities and services. Definitions of limits of "life" and "death" in context of holistic health.

SOC 345 Interpersonal Dynamics **3c-0l-3cr**
Prerequisite: SOC 151
A study of the interaction between and among individuals and groups in various social settings. Emphasizes self-understanding, small groups, socialization, social influence and compliance, person perception, collective behavior, and mass communication.

SOC 348 Sociology of Work **3c-0l-3cr**
Prerequisite: SOC 151
Focuses upon the sociological examination of the various forms of labor, employment, and unemployment present in industrial societies. Examines the nature of work and unemployment in the modern era and how these forms are being transformed in the present period

SOC 352 Sociology of Religion **3c-0l-3cr**
Prerequisite: SOC 151
Nature, role, and function of religious phenomena in human societies are explored with special attention to certain critical issues as they relate to religion and politics and religion and economics. Some fundamental modes of religious life including ritual forms and mythic expressions are examined. Other themes such as revitalization movements and processes of secularization in modern societies are included.

SOC 357 Sociology of Aging **3c-0l-3cr**
Prerequisite: SOC 151
An introduction to various problems faced in the process of growing older. Attitudes of society toward elderly and social and cultural impact of an aging U.S. population examined.

SOC 361 Social Stratification **3c-0l-3cr**
Prerequisite: SOC 151
Examines leading perspectives in the major sociological subfield of social stratification. Attention drawn to different ways of ranking people in human societies, issues concerning the distribution of income and wealth, the role of political power in determining who gets what, and the causes and consequences of social inequality for specific groups.

SOC 362 Racial and Ethnic Minorities **3c-0l-3cr**
Prerequisite: SOC 151
Examines from a historical and comparative perspective the experiences of minority groups, with special emphasis on economic and political domination, stereotyping, prejudice, and discrimination. Techniques of majority group domination and the responses of minority groups are discussed. Various reasons for the different rates and patterns of assimilation are explored

SOC 363 Sociology of Gender **3c-0l-3cr**
Prerequisite: SOC 151
Explores current perspectives on the situations faced by women and men, primarily in the United States. Examines issues such as the impact of sex and gender on socialization, the construction of knowledge, intimate relationships, paid work, family relationships, health, and issues of change.

SOC 380 Social Research Methods **3c-0l-3cr**
Prerequisites: 9cr in SOC and junior standing
Examines diverse research designs used in the social sciences, i.e., survey, field study, experiment, documentary, and existing statistical data. Focuses both on logic and practice of social research. Students choose a number of mini-projects or a major research project.

SOC 421 Sociology of Mass Media **3c-0l-3cr**
Prerequisite: SOC 151
Examines the development of mass media as dominant cultural forms within advanced industrial societies in the twenty-first century. Emphasizes critical understanding of the sociohistorical development, the underlying assumptions, and the social implications of the advance of mass media.

SOC 427 Spouse Abuse **3c-0l-3cr**
Prerequisite: SOC 151
Considers the range of theoretical explanations for the pervasive violence between husband and wife. Particularly examines the research on wife battering and the implications of this research for programs and policies assisting both the victim and the abuser.

SOC 428 Child Abuse **3c-0l-3cr**
Prerequisite: SOC 151
Examines the prevalence, causes, and social implications of physical, sexual, emotional, and neglect forms of child abuse in society. Child abuse is studied from the individual, family, and societal level perspectives. Potential intervention strategies will also be considered.

SOC 448 Social Policy **3c-0l-3cr**
Prerequisite: SOC 151
Focuses on the formation of social welfare programs in the U.S., current social policy issues, and debates between conservative, liberal, and social democratic policy analysts. Special attention drawn to various social problems and a range of social policies designed to ameliorate the economic disadvantages of single individuals, single parents, and two-parent families. Also devoted to understanding the relationship between social policy, research, and implementation.

SOC 452 Disability and Society **3c-0l-3cr**
Prerequisite: SOC 151
Analyzes disability from a sociological perspective. Includes consideration of historical and current views of disability and a review of related concepts from the fields of medical sociology and the sociology of deviance. Also includes an analysis of the effects of disabilities on individuals and families through the life course and a consideration of related ethical, economic, political, and social policy issues. Emphasizes disability as a social construction.

SOC 456 Field Research Methods **3c-0l-3cr**
Prerequisite: SOC 380 or permission
An examination of methods and practice of sociology and anthropology in the areas of qualitative and field methods. Concentrates upon the development of field notes, interviewing techniques, participant observation, etc. Qualitative methods of sampling and analysis includes theoretical sampling

and analytic induction. Brief background research into community, organizational, and group structure will also be emphasized.

SOC 457 Computer Use in Sociology **3c-0l-3cr**
Prerequisite: Instructor permission
Introduces the use of microcomputers in social science research and practice. Uses a variety of software for clinical sociological applications as well as quantitative analysis of social scientific data. These include client information systems, field notes and downloading such notes, exchanging information between agencies, and statistical analyses for program evaluation and forecasting.

SOC 458 Political Sociology **3c-0l-3cr**
Prerequisite: SOC 151
An examination of the social context of power and politics, with special reference to such topics as who controls the state and state policy; the role of the state in stabilizing capitalism and protecting the power of the upper class; political activities of the middle and upper classes; and labor, civil rights, and welfare rights social movements in America. Especially considers the problems of conducting and implementing social policy research for social change. Cross-listed as PLSC 346.

SOC 460 Social Research Methods I **3c-0l-3cr**
Prerequisites: SOC 320, junior standing
First in a two-course methods sequence. Examines diverse research designs used in the social sciences, i.e., survey, field study, experiment, documentary, and existing statistical data. Focuses both on logic and practice of social research. Students develop a research design to be implemented in the second course in the research sequence.

SOC 461 Social Research Methods II **3c-0l-3cr**
Prerequisites: SOC 460, junior standing
Second in a two-course methods sequence. Students will implement the research project that developed during the first course in this sequence. Course is primarily applied research, and students will use the semester to collect and analyze their data and to prepare a final research report on their findings.

SOC 480 Sociology Seminar **var-1-3cr**
Prerequisite: SOC 151
A seminar for advanced students devoted to an intensive analysis of specialized issues within the discipline.

SOC 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are offered primarily for upper-level undergraduate students.

SOC 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An opportunity to engage in an in-depth analysis of some topic through consultation with a faculty member. A semester project ordinarily expected. Approval is based on academic appropriateness and availability of resources.

SOC 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

SOC 484 Readings in Sociology **var-1-3cr**
Prerequisite: SOC 151
Directed readings on special topics in sociology. (Offered as SOC 483 prior to 2003-04)

SOC 493 Internship in Sociology **var-3-12cr**
Prerequisite: Prerequisites vary by track. Permission of Internship Coordinator required
Supervised experience in a public or private organization that extends and complements coursework at the university.

SOWK: Social Work
Department of Sociology
College of Humanities and Social Sciences

SOWK 238 Introduction to Social Work **3c-0l-3cr**
Prerequisite: ANTH 110 or SOC 151
An introduction to the dynamics of helping relationships.

SPAN: Spanish
Department of Spanish
College of Humanities and Social Sciences

SPAN 101 Elementary Spanish I **4c-0l-4cr**
For beginning students. Primary emphasis is on aural/oral skills. Students learn to converse and ask questions in simple present time and become acquainted with location of Hispanic populations and elements of their daily lives. Attendance is required. No student will be allowed to register for or take a D/F repeat in SPAN 101 when credit has already been received for a higher numbered SPAN course.

SPAN 102 Elementary Spanish II **4c-0l-4cr**
Perequisite: SPAN 101, or the equivalent as established by departmental placement examination
A continuation of SPAN 101. Learn to express past and future time. Continue to learn about Hispanic countries and their cultures. Attendance is required. No student will be allowed to register for or take a D/F repeat in SPAN 102 when credit has already been received for a higher numbered SPAN course.

SPAN 121 Spanish for Health Care Professionals I **3c-0l-3cr**
For beginning students in nursing and other health-related programs. Primary emphasis is on aural/oral skills. Students learn to converse and ask questions related to health care settings in simple present time and near future. They also become acquainted with Hispanic populations and elements of their daily lives. Class and language lab attendance are required. A student may receive credit for only one course from SPAN 101, 111, 121, or 131.

SPAN 122 Spanish for Health Care Professionals II **3c-0l-3cr**
Prerequisite: SPAN 121 or equivalent
A continuation of SPAN 121 for students in nursing and other health-related programs. Primary emphasis is on aural/oral skills. Students learn to express past and future time in health care settings. They read articles about medical issues and short stories which concern health care themes in Hispanic cultures. Class and language lab attendance are required. A student may receive credit for only one course from SPAN 102, 122, 132, or 211.

SPAN 131 Spanish for the Hospitality Industry I **3c-0l-3cr**
Similar to SPAN 101 but with a special emphasis on the vocabulary and structures used in the hospitality industry: hotel and restaurant management, tourism, and marketing. Class and language lab attendance is required. A student may receive credit for only one course from SPAN 101, 111, 121, or 131.

SPAN 132 Spanish for the Hospitality Industry II **3c-0l-3cr**
Prerequisite: SPAN 131 or equivalent
Similar to SPAN 102 but with a special emphasis on the vocabulary and structures used in the hospitality industry: hotel and restaurant management, tourism, and marketing. Class and language lab attendance is required. A student may receive credit for only one course from SPAN 102, 122, 132, or 211.

SPAN 201 Intermediate Spanish **4c-0l-4cr**
Prerequisite: SPAN 102 or equivalent
A continuation of previous work on listening, speaking, reading, and writing skills. Students learn to function in everyday situations, expressing

opinions and doubts, and narrating and describing in present, past, and future time. Exposure to cultural concepts through literary readings. Liberal Studies credit is given. Attendance is required. No student will be allowed to register for or take a D/F repeat in SPAN 101 when credit has already been received for a higher numbered SPAN course.

SPAN 220 Intermediate Spanish Conversation and Grammar **3c-0l-3cr**
Prerequisite: SPAN 201 or equivalent
Intensive work on oral communication skills with emphasis on vocabulary building, pronunciation, discourse strategies, and grammar review. (Offered as SPAN 221 prior to 2004-05)

SPAN 222 Intermediate Spanish Conversation–Business **3c-0l-3cr**
Prerequisite: SPAN 201 or equivalent
Same as SPAN 220 but with a special emphasis on the vocabulary and structures used in the business world. Substitutes for SPAN 220.

SPAN 223 Intermediate Spanish Conversation–Criminology **3c-0l-3cr**
Prerequisite: SPAN 201 or equivalent
Same as SPAN 220 but with a special emphasis on the vocabulary and structures used in law enforcement and criminal justice. Substitutes for SPAN 220.

SPAN 230 Intermediate Spanish Composition **3c-0l-3cr**
Prerequisite: SPAN 220 or equivalent
Intensive practice in written expression in Spanish. Both communicative and structural skills are stressed. Taught in Spanish. Required for all majors and minors. Approved to meet the Liberal Studies requirement for a writing-intensive course for majors.

SPAN 244 Modern Mexico **3c-0l-3cr**
Prerequisites: SPAN 201 or equivalent and participation in the Mexico Summer Study Abroad Program
Taught in Mexico as part of the study abroad program, introduces the contemporary culture of the largest Spanish-speaking country in the world. A historical perspective is provided within which to understand current phenomena. Textbook readings are supplemented with readings from literary works and current periodicals. Gain firsthand experience both through field trips and by living with a Mexican family. Taught in Spanish.

SPAN 260 Introduction to Hispanic Literature **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
A prerequisite for any 300- or 400-level course in Hispanic literatures. Provides the tools necessary for developing literary competence, the course combines a study of literary genres and analysis with an introduction to the literatures of Spain and Spanish America. Taught in Spanish. Required for all majors and minors.

SPAN 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

SPAN 290 Spanish for Elementary Teaching **3c-0l-3cr**
Prerequisite: SPAN 201 or equivalent oral proficiency rating. For students enrolled in the FLISET Program. Designed for Elementary Education and Early Childhood Education/PreK-Grade 6 majors completing the FLISET Program.
Increases proficiency in Spanish and to prepare for an internship in an elementary school abroad. Emphasizes vocabulary acquisition and strengthening listening and speaking abilities in Spanish. Through in-class interaction and practice in the language laboratory, students improve their linguistic skills, learn the language necessary for dealing with elementary-age children, and acquire basic vocabulary for teaching the content areas of the elementary school curriculum.

SPAN 340 Hispanic Civilization Through the Nineteenth Century **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
An introduction to the significant aspects of the culture of both Spain and Spanish America. Elements for explanation and discussion are drawn from artistic, literary, religious, geographic, social, and political manifestations of Hispanic culture as these have revealed themselves through the nineteenth century. Taught in Spanish. Required for all majors and minors.

SPAN 342 Twentieth-Century Spanish Civilization and Culture **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
An analysis of the major cultural trends in twentieth-century Spain as they relate to its current problems, aspirations, and values. Elements for explanation and discussion are drawn from artistic, literary, religious, geographic, social, and political manifestations. Taught in Spanish; offered alternate years. (May not duplicate credit for SPAN 382 taken in Valladolid)

SPAN 344 Twentieth-Century Spanish-American Civilization and Culture **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
An analysis of the major cultural trends in twentieth-century Spanish America as they relate to its position in the world. Elements for explanation and discussion are drawn from artistic, literary, religious, geographic, social, and political manifestations, including indigenous cultural influences. Taught in Spanish; offered alternate years.

SPAN 350 Advanced Spanish Conversation **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
Extensive practice in oral communication skills. Emphasizes development of fluency in speaking over a wide range of topic areas. Required for all majors and minors. (Offered as SPAN 321 prior to 2004-05)

SPAN 353 Spanish Phonetics and Phonemics **3c-0l-3cr**
An introduction to the phonological study of the sounds and training in pronunciation. Teaches the theoretical basis for understanding the Spanish sound system and perfects pronunciation through classroom practice and tapings. Taught in Spanish. Required for Spanish Education majors; highly suggested for Spanish majors.

SPAN 354 Commercial Spanish **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
Designed especially for majors in Spanish for International Trade, this course has three focuses: teaches how to do business communications in Spanish; teaches the vocabulary necessary for dealing with all aspects of trade and commerce; and introduces students to the special concerns and practices of business in the Spanish-speaking world. Taught in Spanish.

SPAN 362 Survey of Peninsular Literature **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
Introduces a careful and critical reading of literary texts from Spain read either in their entirety or in select passages. Taught in Spanish; offered alternate years.

SPAN 364 Survey of Spanish-American Literature **3c0l3cr**
Prerequisite: SPAN 260 or permission
Introduces a careful and critical reading of Spanish-American literary texts read either in their entirety or in select passages. Taught in Spanish; offered alternate years.

SPAN 382-389 Pennsylvania-Valladolid Program **18cr**
Prerequisites: SPAN 230 and 260 or permission
Contact chairperson, Department of Spanish. Courses taken in Valladolid include the SPAN 382-389 and SPAN 482 (3cr). Descriptions follow.

SPAN 382 Contemporary Spain **3cr**
Prerequisites: SPAN 230 and 260 or permission
Gives a general view of Spain today in the areas of society, economy, and political institutions. (See SPAN 342)

SPAN 383 Geography and History of Spain **3cr**
Prerequisites: SPAN 230 and 260 or permission
Introduces a panorama of Spanish physical, social, and economic geography, including the recent autonomic division of the country and the communication among the autonomies. Also reviews the history of Spain from the fifteenth century to the present with special emphasis on today's Spanish institutions.

SPAN 384 History of Spanish Art **3cr**
Prerequisites: SPAN 230 and 260 or permission
Students are exposed to the richness of art in the Iberian Peninsula and in particular in the area of Madrid and Castilla-Leon. Studies the evolution of Spanish art in history, giving more emphasis to contemporary tendencies.

SPAN 385 Survey of Spanish Literature **3cr**
Prerequisites: SPAN 230 and 260 or permission
Students are introduced to a general study of Spanish literature from its origin to the present time and learn to appreciate and analyze the different literary genres. Emphasis on twentieth-century literature.

SPAN 389 Theory and Practice of Spanish Language **3cr**
Prerequisites: SPAN 230 and 260 or permission
Introduces Spanish syntax, morphology, and the Spanish language lexicon, as well as familiar and formal conversation and to idiomatic expressions used in everyday situations.

SPAN 390 Teaching of Elementary Content Through the Spanish Language **3c-0l-3cr**
Prerequisites: Passage of a language proficiency examination and instructor permission
Studies current theories of language acquisition processes in children and develops foreign language instructional objectives and activities which integrate language and cultural learning with the content areas of the elementary school curriculum. Through hands-on practice, the student develops techniques for teaching functional language, planning lessons, testing language skills, setting curricular objectives, and selecting/designing materials appropriate to the needs and interests of elementary school foreign language learners.

SPAN 400 History of the Spanish Language **3c-0l-3cr**
Prerequisite: SPAN 230 or equivalent
Traces phonological, morphological, lexical, and syntactical evolution of Castilian dialect from its origins in vulgar Latin through its development, perfection, and ultimate recognition as the official language of Spain and Spanish America. Places Castilian linguistically with relation to other Romance languages and considers features peculiar to Spanish of Latin America. Taught in Spanish.

SPAN 402 Translation and Interpretation **3c-0l-3cr**
Prerequisites: SPAN 230 and 350
Fundamental translation skills for use in business and industry as well as in academic and popular fields.

SPAN 403 Applied Linguistics **3c-0l-3cr**
Prerequisite: SPAN 230
An introduction to Spanish linguistics for students who have had no previous experience in linguistics. Studies the application of areas such as phonology, morphology, syntax, and semantics and explore issues in psycholinguistics and sociolinguistics. Taught in Spanish.

SPAN 404 Advanced Spanish Grammar **3c-0l-3cr**
Prerequisites: SPAN 230 and senior standing or departmental permission
An in-depth study of Spanish syntax and morphology. Taught in Spanish. Required for all majors.

SPAN 410 Medieval Literature **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
Reading and discussion of various medieval genres: brief prose narrative, epic, lyric, and didactic poetry, prose, and medieval drama. Taught in Spanish; offered in four-year rotation.

SPAN 411 Golden Age Literature **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
An analysis of themes, motifs, and stylistic devices of Spanish poetry, novel, and theater of the Renaissance and Baroque. Taught in Spanish; offered in four-year rotation.

SPAN 412 The Spanish Novel of the Nineteenth and Twentieth Centuries **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
An analysis of selected novels from three major periods: the nineteenth century, the Generation of 1898, and the post Civil War. Taught in Spanish; offered in four-year rotation.

SPAN 413 Spanish Poetry of the Nineteenth and Twentieth Centuries **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
The study and analysis of lyric poetry in Spain from nineteenth-century poetry through modernism and its evolution to the present. Taught in Spanish; offered in four-year rotation.

SPAN 420 Modern Hispanic Theater **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
The study and analysis of modern dramatic works from Spain and Spanish America. Particular emphasis is given to the representational aspect of the works. Taught in Spanish; offered in four-year rotation.

SPAN 421 Modern Hispanic Short Story **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
The critical analysis of short stories by Spanish and Spanish-American authors. Taught in Spanish; offered in four-year rotation.

SPAN 430 Twentieth-Century Spanish-American Prose **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
Traces literary expressions from the turn of the century to the present in the major prose expressions of the essay, the short story, and the novel. Taught in Spanish; offered in four-year rotation.

SPAN 431 Spanish-American Poetry **3c-0l-3cr**
Prerequisite: SPAN 260 or permission
A study of Spanish American poetry from its early manifestations through modernism, post-modernism, and avant-garde. Taught in Spanish; offered in four-year rotation.

SPAN 450 Conversation Forum **2c-0l-2cr**
Prerequisite: SPAN 350 or equivalent
Extensive work on the development of speaking skills at the "Advanced Low" level of oral proficiency, as defined in the Speaking Guidelines developed by the American Council on the Teaching of Foreign Languages. Focuses on paragraph-length discourse and narration and description in present, past, and future time frames within a variety of topics and contexts. (Offerd as SPAN 451 prior to 2004-05)

SPAN 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

SPAN 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An opportunity to engage in an in-depth analysis of some topic dealing with the Spanish language and culture through consultation with a faculty member. Approval is based on academic appropriateness and availability of resources.

SPAN 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office

An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

SPAN 493 Internship **var-3-12cr**
Prerequisite: One semester of study in a Spanish-speaking country
A supervised field experience in any Spanish-speaking area of the world with approved public agencies and institutions or private firms, no longer than one semester and no less than one month. Positions are matched as closely as possible with the intern's personal interests and professional goals. For more information contact the Spanish Department. Maximum of 6cr can be applied toward a major.

SPLP: Speech Pathology and Audiology
Department of Special Education and Clinical Services
College of Education and Educational Technology

SPLP 111 Introduction to Communication Disorders **3c-0l-3cr**
An introduction to study of physiological, acoustical, and scientific processes involved in production and reception of speech. The genetic development of speech sounds and factors that hinder or facilitate speech and language acquisition.

SPLP 122 Clinical Phonology **3c-0l-3cr**
A detailed study of the classification of American-English phonemes using the physical and acoustical perspectives. Development of proficiency in use of International Phonetic Alphabet for allophonic transcriptions of normal and disordered speech.

SPLP 222 Introduction to Audiology **3c-0l-3cr**
The study of auditory function, anatomy of auditory mechanism, psychophysics of sound, types and causes of hearing loss, measurement of hearing, and educational considerations for hearing-handicapped child.

SPLP 242 Speech Science I **3c-0l-3cr**
The study of the communication process with emphasis on physical characteristics of sound production, transmission and perception of the sound, and the evolvement and use of symbols for meaningful communication. The scientific principles of normal oral communication are stressed, and language learning is recognized as a basis for oral communication.

SPLP 251 Anatomy and Physiology of the Speech and Hearing Mechanism **3c-0l-3cr**
Consideration of genetic development, structure, and function of the organs of speech and hearing. Anatomical systems involved in respiration, phonation, articulation, and hearing and relationships between systems in production and reception of speech.

SPLP 254 Classrnom Management of Language Disorders **3c-0l-3cr**
A study of aspects of speech, language, and hearing problems pertaining to classroom situation. Types of speech and hearing disorders, conducting speech and language improvement lessons, classroom aids for teaching the child with language, speech, and hearing impairment, and school and community resources for these children. (Required for majors in Education of the Exceptional and suggested for majors in Elementary Education)

SPLP 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

SPLP 311 Aural Rehabilitation **3c-0l-3cr**
Prerequisites: SPLP 222, 3.0 GPA
Consideration of the effects of varied degrees of hearing loss sustained by individuals at different stages of development and study of total education and rehabilitative procedures for the hard-of-hearing child or adult.

SPLP 334 Language Development **3c-0l-3cr**
Prerequisite: 3.0 GPA
The study of the development of an interpersonal communication system; language as a system of symbols for communication; the structure of the English language, including phonology, syntax, and semantics with emphasis on the generative evolvement of sentences. Highlighting the neurological, social, and psychological bases of language development.

SPLP 342 Speech Science II **3c-0l-3cr**
Prerequisites: SPLP 242, 3.0 GPA
Physiologic, acoustic, and perceptual characteristics of speech with special emphasis on speech monitoring and controls. Major lab instrumentation and research techniques in current use are described and demonstrated. The status of present knowledge is summarized and discussed.

SPLP 406 Articulation and Language Disorders **3c-0l-3cr**
Prerequisites: SPLP 111, 242, 251, 334, 3.0 GPA
An exploration of the processes related to developmental articulation and language disorders from birth through adolescence. Instruction in the principles underlying modification of these disorders. Preparation of management programs and observation in the Speech and Hearing Clinic required.

SPLP 408 Stuttering and Voice Disorders **3c-0l-3cr**
Prerequisites: SPLP 111, 242, 251, 334, 3.0 GPA
An introduction to the developmental, psychogenic, and organic bases for stuttering and voice disorders. Instruction in principles underlying treatment of these disorders with emphasis on anatomical deviations and laryngeal dysfunction. Preparation of management plans and observation in Speech and Hearing Clinic required.

SPLP 412 Organization and Administration of Speech and Hearing Program **3c-0l-3cr**
Prerequisites: SPLP 111, 3.0 GPA (meets requirement for Professional Education course)
Establishment and maintenance of speech and hearing programs within various administrative organizations, particularly in the public schools. The techniques of client identification, scheduling, recordkeeping, appropriate referral, material and equipment selection, teacher and parental counseling, and the development of coordinated professional and interdisciplinary procedures.

SPLP 420 Speech Clinic **var-1-3cr**
Prerequisites: EDUC 242, 342, GPA of 3.0 or better, all major courses, program director's permission
An experience in working with individuals or groups of persons who exhibit speech or hearing problems. Lesson planning, writing of reports, and case histories of a detailed nature.

SPLP 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

SPLP 482 Iodependent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

THTR: Theater
Department of Theater and Dance
College of Fine Arts

THTR 101 Introduction to Theater **3c-0l-3cr**
An exploration of the theater arts, examining major periods of theater history, selected works of dramatic literature, and the primary theater arts of acting, directing, design, and technical theater. Class experience includes

the analysis of at least two major works of drama, attending two live productions, and viewing of selected televised plays and musicals.

THTR 111 Foundations of Theater **3c-01-3cr**
A primary course for those engaged in theater and any other performance-related area so as to define the nature of theater art, develop one's own individual system of analysis and to finally acquire an understanding of process, dramatic structure, composition, genre, theatrical styles, and a theory of performance.

THTR 116 Fundamentals of Theatrical Design **3c-01-3cr**
Introduces the fundamentals of scene, costume, lighting, and sound design for theater and dance. Focuses on creative processes used by designers to make choices. Topics include script analysis, director and designer communication, and the integration of the design elements into a unified production.

THTR 120 Stagecraft **3c-01-3cr**
An exploration of the material, methods, and procedures utilized in creating a scenic environment. Through instruction and practical applications, students learn the basis of scenic construction and develop competency with the basic materials and equipment used in a theatrical scenery shop.

THTR 122 Costume Workshop **3c-01-3cr**
Instruction and practical experience in the process of building costumes for the stage. Activities include fitting, cutting, sewing, dyeing, and painting. There is also instruction in the maintenance of wardrobe, costume stock, materials, and properties.

THTR 130 Stage Voice **3c-01-3cr**
Prerequisite: Theater majors only or instructor permission
Instruction in basic development of the vocal instrument of the actor in stage performance. Emphasizes resonance, quality, pitch, and projection of the voice while improving the student's ability to articulate.

THTR 131 Stage Movement **3c-01-3cr**
Instruction in basic stage movement and the physicalization of character. Includes work in character development through variety in movement, introductory work in juggling, stage combat, and mime, and the assessment, awareness, and correction of individual movement problems.

THTR 205 Classic Theater I **3c-01-3cr**
Prerequisite: HIST 195
A comprehensive survey of western theater from its origins to the beginning of the Italian Renaissance. Includes the study of significant plays of the period as well as the influence of playwrights, directors, actors, designers, and theorists of the era.

THTR 206 Classic Theater II **3c-01-3cr**
Prerequisite: HIST 195
A comprehensive survey of western theater from the Italian Renaissance to the end of the eighteenth century. Includes the study of significant plays of the period as well as the influence of playwrights, directors, actors, designers, and theorists of the era.

THTR 207 Modern Theater I **3c-01-3cr**
Prerequisite: HIST 195
A comprehensive survey of western theater from the time after the French Revolution to the outbreak of the First World War. Includes the study of significant plays of the period as well as the influence of playwrights, directors, actors, designers, and theorists of the era.

THTR 208 Modern Theater II **3c-01-3cr**
Prerequisite: HIST 195
A comprehensive survey of western theater from the early twentieth century to the present. Includes the study of significant plays of the period as well as the influence of playwrights, directors, actors, designers, and theorists of the era.

THTR 221 Basic Stage Lighting **3c-01-3cr**
An introduction to lighting instruments, color media, control boards, physical laws of electricity and optics, graphics, and conventional techniques used in lighting theatrical productions.

THTR 223 Makeup for the Stage **3c-01-3cr**
Deals with practical application of straight and character makeup and may include instruction in creating beards, wigs, prosthetics, and masks.

THTR 240 Acting I **3c-01-3cr**
The study of the primary elements of the Stanislavski system of character development. Includes text analysis and the development of physical action through a character's subtext, as well as motivational and improvisational techniques.

THTR 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

THTR 310 Theater Criticism **3c-01-3cr**
Prerequisite: Junior or senior Theater major status or permission
Gives students of theater an opportunity to use what they have learned in the areas of theater (acting, directing, design, and playwrighting) toward the critical process of responding to theater productions. Examines differences between theater criticism and theater reviews while learning to write critical responses to live performances both on and off campus.

THTR 320 Scene Design **3c-01-3cr**
Prerequisite: THTR 116 or permission
An introductory course in scenic design that applies the fundamental principles of theatrical design. Topics include an overview of current scene design practice, design conceptualization, graphic communication methods, and a method of designing theatrical scenery. Practical applications are emphasized through a series of class exercises.

THTR 321 Stage Lighting Design **3c-01-3cr**
Prerequisite: THTR 116 or permission
An introductory course in stage lighting that applies the fundamental principles of theatrical design. Stage lighting topics include an overview of current lighting methods and equipment, the controllable properties and functions of stage lighting, learning to see light, a creative approach to stage lighting, and design graphics. Practical applications are emphasized through a series of class exercises.

THTR 322 Costume Design **3c-01-3cr**
Prerequisite: THTR 116 or permission
An introduction to the discipline of costume design for the theater with an emphasis on script analysis, figure drawing, character definition, and control of the design elements, supplemented by an overview of costume history.

THTR 323 Sound Design **3c-01-3cr**
Covers the basic principles and theories of designing sound for the theater. Through demonstration and practical application, covers the following principal areas: basic electronics, recording techniques and equipment, musical and effects integration, theater acoustics, designing sound, and sound reinforcement.

THTR 324 Advanced Stagecraft **3c-01-3cr**
Prerequisites: THTR 120 and 221, or permission
An advanced exploration of materials, methods, and procedures involved in operating a scenery studio and theater facility. Students receive intensive practical experience in technical problem solving, studio planning, and project supervision. (Offered as THTR 220 prior to 2003-04)

THTR 340 Acting II **3c-01-3cr**
Prerequisite: THTR 240

A continuation of the study of Stanislavski system, focusing on his primary texts, towards a development of individual student techniques. Emphasizes scene study through applying techniques to scene rehearsal and role problems and exploring the relationships between psychological states, physical action, and truth in acting.

THTR 341 Acting Styles **3c-0l-3cr**
Prerequisites: THTR 130/131, 240 or instructor permission
A study and practice of advanced acting skills, with special emphasis on style and period. Possible areas of focus: Greek classical, Commedia Dell'Arte (farce), French Neoclassical, Restoration Comedy, Melodrama, High Comedy (Wilde/Coward), or Theater of the Absurd.

THTR 342 Acting Shakespeare **3c-0l-3cr**
Prerequisites: THTR 240, 340 or instructor permission
An advanced acting studio which prepares students to perform in Shakespeare's plays. Provides a background overview of the Elizabethan period in addition to various methods towards approaching the movement, language, and verse forms from an actor's point of view.

THTR 345 Touring Young People's Theater **3c-0l-3cr**
Introduces the fundamentals of young people's theater for audiences aged five through fifteen years. Class members select appropriate children's literature, develop a script through improvisation, and rehearse and tour their production to the surrounding schools.

THTR 347 Playwriting **3c-0l-3cr**
Prerequisite: THTR 111 or instructor permission
A practical exploration of the craft and process of playwriting. Focuses primarily on the practical, "hands-on" experiences approximating the "developmental process" currently in use in the American theater. The student is guided from the initial concept through synopsis, outlines, working drafts, and completion of an original one-act play and a "staged reading" of this project.

THTR 350 Directing **3c-0l-3cr**
Prerequisites: THTR 111, 240, or instructor permission
An introduction to basic directing skills: casting, floor plans, blocking, rehearsal procedures, and the applications of scenes and character analysis. Students prepare short scenes for class presentation.

THTR 481 Special Topics **var-1-6cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

THTR 482 Independent Study **var-1-6cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Independent study in theater may be either purely academic or may be a practical production project, supported by a written document giving evidence of significant scholarly investigation or original, creative effort. May be repeated to a maximum of 6cr. Approval is based on academic appropriateness and availability of resources.

THTR 483 Honors Thesis **var-1-6cr**
Prerequisites: Admission to departmental honors program; prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
An intensive, focused study involving independent research culminating in a written thesis approved by a thesis director and two faculty readers/committee members. May be taken more than once to a maximum of 6sh.

THTR 484 Directing Studio **3c-2l-3cr**
Prerequisites: THTR 350 or instructor permission
An opportunity for students to direct scene work, one-act plays, or larger projects, according to individual levels of experience, preparation, and readiness. Practical application of principles of directing to specific problems in directing. Student projects performed in public, open-class recitals. May be repeated

THTR 486 Practicum in Production **var-0-3cr**
Prerequisite: Theater major standing or instructor permission
An opportunity with academic credit for students to make significant contributions to campus productions augmenting theater coursework in the areas of directing, acting, stage management, technical direction, design (sound, set, lights, costumes, makeup), properties, scenic construction and scenic art painting, costume technology, dance, and running crews. Repeatable course required of all theater majors for a minimum of six semesters, one of which must be a final project for senior majors.

THTR 487 Acting Studio **3c-2l-3cr**
Prerequisites: Minimum of THTR 240, by permission; individual foci have additional prerequisites
An advanced studio course offering scene practice with faculty direction, coaching, and criticism. Specific focus of scene work varies from semester to semester, including improvisation techniques, stage dialects, audition techniques, and acting for the camera as alternating semester options. May be repeated with a different focus each time. (Offered as THTR 483 prior to 2003-04)

THTR 489 Technical Theater Problems **3c-0l-3cr**
Open to all students desiring instruction in a variety of technical theater areas not presently covered in other courses. Topics to include sound design, stage management, set props, media make-up, technical drawing/mixed media, and scene painting. May be repeated.

THTR 493 Internship **var-3-12cr**
Prerequisite: Instructor permission
Opportunities for students to gain experience with professional performance organizations in areas related to theater and dance.

UVWD: Universitywide Courses
Academic Affairs Division

UVWD 480 T.H.I.S. Seminar **3c-0l-3cr**
An academic seminar taken at the Pennsylvania State System of Higher Education University Center in Harrisburg in conjunction with the T.H.I.S. internship. Consists of public policy information, decision making, and budgeting and addresses question-and-answer sessions with leading state government policymakers. See description under Academic Affairs areas. Restricted to the T.H.I.S. internship participant. See UVWD 493.

UVWD 493 T.H.I.S. Internship **var-12cr**
A practical experience at the policymaking level of the state government that also requires a research project. Student must have a 3.0 GPA and submit a sample of writing skills with the application to the Experiential Education Office. Open to any IUP major. See description under Academic Affairs areas. Concurrent seminar course required. See UVWD 480.

VOED: Vocational Education
Center for Vocational-Technical Personnel Preparation
School of Continuing Education

VOED 010 Industrial Electrical Technology **var-1-18cr**
Prerequisite: Center/department permission
Emphasizes comprehensive industrial electrical technology through training in specialty concentrations applied to design, development, and testing of electrical circuits, devices, and systems for generating electricity and the distribution and utilization of electrical power. Carries institutional credit only.

VOED 100 Preparation of the Vocational Professional I **var-1-15cr**
Personalized, self-paced vocational teacher preparation. The vocational student/intern develops, demonstrates, and documents competence in selected pedagogical competencies. Individualized instruction is supplemented with monthly seminars. Self-evaluation is encouraged in the program, utilizing videotaping and the feedback from a team of professional teacher educators.

VOED 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content

Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

VOED 395 Vocational Education Writing Experience **var-0cr**
Writing assignments such as abstracts, logs of activities, philosophy papers, training plans, presentation plans, lesson plans, etc., are completed in conjunction with selected instructional modules from VOED 100 and 400.

VOED 400 Preparation of the Vocational Professional II **var-1-15cr**
Prerequisite: Successful completion of VOED 100
Personalized, self-paced vocational teacher preparation. The vocational student/intern develops, demonstrates, and documents competence in selected teaching skills in the areas of program planning, program development, program evaluation, and managing and evaluating instruction in a vocational school setting. Self-evaluation is encouraged in the program, utilizing videotaping and the feedback from a team of professional teacher educators.

VOED 401 Special Topics in Vocational Technical Preparation **var-1-12cr**
Prerequisite: Center permission
Provides opportunities for vocational students/interns to develop additional technical skills in areas related to their occupational competence under professional supervision. Topics are determined through individual counseling, through priority needs identified by advisory committees, and through evaluation of technical competence by center teaching staff.

VOED 402 Special Topics in Vocational Pedagogical Preparation **var-1-15cr**
Prerequisite: Center permission
Provides opportunities for vocational students/interns to develop additional teaching skills under professional supervision. Topics are determined through identification of priority areas in vocational education using national and state surveys and students' individual needs.

VOED 450 Technical Preparation of the Vocational Professional **24cr**
Competency assessment of occupational experience through national standardized written and performance examinations.

VOED 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

VOED 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office
Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

WMST: Women's Studies
Women's Studies Program
Academic Affairs Division

WMST 200 Introduction to Women's Studies **3c-0l-3cr**
Focuses on women as they are and as they have been–as represented by the work of writers and as presented in the theory and research of various disciplines. Historical and contemporary images of women are examined in terms of their impact on our lives. The relationships of women to social institutions such as education, religion, and health care are explored. Alternative theories explaining the roles and status of women are compared. Attempts to help us understand the choices and experiences women face in their everyday personal, work, and public lives.

WMST 281 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 281 are offered primarily for lower-level undergraduate students.

WMST 430 Gender, Sexuality, and Sport: A Feminist Perspective **3c-0l-3cr**
An analysis of the complex interaction of race, class, sexuality, and gender within sport throughout the twentieth century. Offers a lens through which to understand both the complicated gender dynamics of sport and the social experience of women athletes, gay and straight; also provides a critical insight into the history of gender relations in American society. The life and legend of Babe Didrikson Zakarias is examined. Students cannot receive duplicate credit for LBST 499 Sport: Gender, Race, Class, and Sexuality.

WMST 481 Special Topics **var-1-3cr**
Prerequisite: As appropriate to course content
Offered on an experimental or temporary basis to explore topics not included in the established curriculum. A given topic may be offered under any special topic identity no more than three times. Special topics numbered 481 are primarily for upper-level undergraduate students.

WMST 482 Independent Study **var-1-3cr**
Prerequisite: Prior approval through advisor, faculty member, department chairperson, dean, and Provost's Office

Students with interest in independent study of a topic not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval is based on academic appropriateness and availability of resources.

University Calendar

Fall Semester, 2004		Spring Semester, 2005	
Registration	August 29	Registration	January 9
Classes begin	August 30	Classes begin	January 10
Labor Day Break (no classes)	September 6	Martin Luther King, Jr., Day (no classes)	January 17
Fall recess	October 18-19	Spring vacation	March 7-13
Thanksgiving recess	November 24-28	Classes resume (8:00 a.m.)	March 14
Classes resume (8:00 a.m.)	November 29	Professional Development Day (no classes)	April 19
Classes end	December 13	Classes end	April 26
Final exams	December 14-18	Reading Day	April 27
December Commencement	December 19	Final exams	April 28-May 4
		May Commencement	May 7

Summer Sessions, 2005, to be announced

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